

DECIMAL  
AND  
LOGARITHMICAL  
ARITHMETIC  
EXPLAINED,  
AND  
APPLIED TO THE CALCULATION OF DIVIDENDS,  
AND OTHER PRACTICAL USES;  
AND SHEWING  
THE USE OF LOGARITHMS  
IN THE  
CALCULATION OF COMPOUND INTEREST,  
AND IN  
PROPORTIONING DIVIDENDS AMONGST CREDI-  
TORS RANKED *PARI PASSU*.  
WITH  
A TABLE OF LOGARITHMS  
FROM 1 TO 10,000.

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By JOHN HILL, *Accountant*. *K*

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ARITHMETIC  
LOGARITHMICAL  
AND  
DECIMAL

AND OTHER PRACTICAL USES;  
APPLIED TO THE CALCULATION OF DIVIDENDS

THE USE OF LOGARITHMS

CALCULATION OF COMPOUND INTEREST

PROPORTION DIVIDED BY  
TO OBTAIN THE QUOTIENT

47  
8 25-  
166.

A TABLE OF LOGARITHMS

FROM 1 TO 10,000



EDINBURGH

AND LONDON

1794

## INTRODUCTION.

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**A** Decimal fraction has only the numerator expressed, and the denominator understood, which is 10, or some power of 10, as 100, 1000, &c. thus L.474.87 is read, four hundred and seventy-four pounds, eighty-seven hundredth parts of a pound; or L. 474.875 is understood to be, four hundred and seventy-four pounds, eight hundred and seventy-five thousandth parts of a pound.

Cyphers are used in the expression of decimals as well as in whole numbers; but with this difference, that cyphers placed to the left decrease the value of the decimal in 10, 100, or 1000 parts, according to the number of cyphers placed to the left of the unit. Thus .5 represents five tenths; but .05 is only a five hundredth part, which is only one-tenth the value of five tenths; and .005 is only a five thousandth part, and is only the one hundredth part the value of five tenths.

## INTRODUCTION.

tenths. But cyphers on the right hand of a decimal, if not followed by a unit, are of no more value than cyphers to the left of a whole number, and are in general cut off. Cyphers, too, are sometimes placed after decimals, for the sake of regularity, or when, in any calculation, you want to increase the number of decimal places.

## DECIMAL



# DECIMAL AND LOGARITHMICAL ARITHMETIC EXPLAINED.

## ARTICLE I.

*To Reduce a Vulgar Fraction to a Decimal Fraction.*

**D**IVIDE the numerator by the denominator, putting as many cyphers after the numerator as you propose your decimal fraction should consist of places.

1. Let the fraction proposed to be reduced be  $\frac{5}{16}$ , and the decimal to consist of four places: Then, putting four decimal cyphers after 5.0000, and dividing this by 16, you will find the quotient to be .3125; but as there were four decimal places in the dividend and none in the divisor, consequently four decimal places must be cut off from the quotient, the decimal of  $\frac{5}{16}$  is .3125.

2. Let the fraction proposed to be reduced be  $\frac{5}{7}$ , and the decimal to consist of six places: Here, putting six cyphers after 5, you have 5.000000, and this divided by 7, the quotient is .714285; and were you to encrease the number of decimal places, by putting more cyphers after the numerator 5, you would have a like series of figures repeated, and this division would have run *ad infinitum*.

*Note.* A decimal of this kind is called a repeating decimal.

## ARTICLE II.

*To Reduce the Fraction of a Pound to a Decimal Fraction.*

**F**IRST represent them as vulgar fractions, and then reduce them to a decimal fraction, as directed in Article 1.

Let it be proposed to reduce 1 s. 1  $\frac{1}{2}$  d. to a decimal fraction, to consist of five decimal places. You must, in the first place, make this a vulgar fraction; fourths or farthings being the lowest denomination, you must bring the whole to that denominator; *inde*, 1 shilling is 48 farthings, and 1 penny is 4 farthings, to which add 2 for the  $\frac{1}{2}$ , and the whole amounts to 54; and as there are 960 farthings in a pound, the vulgar fraction will be  $\frac{54}{960}$ ; then, by Article 1. add five cyphers to the numerator 54, and you have 54.00000, and this divided by 960, the quotient is .5625. Then, by Article 1. as five cyphers were added, you must cut off five figures with your decimal point; but as there are only four figures in the quotient, place a cypher to the left of the quotient, and thus supply the want of a figure in the quotient, and decrease the value of your decimal fraction, by removing it a point further from an integer: the decimal will then be .05625.

*Note.* There is a short method of reducing shillings, pence, and farthings to the decimal fraction of a pound, commonly called *Inspection*, which is done in the following manner:

The method of reducing shillings, pence, and farthings to the decimal of a pound by inspection, is, Divide your number of shillings by 2, multiply your pence by 4, and to this product add 1 for every farthing, this gives the figures in the second and third places,

places, and if the product of the pence and farthings amount to or exceed 24, add 1 in the third place.

### 1. EXAMPLE.

What is the decimal of 4 s.  $7\frac{1}{4}$  d.?

The half of 4 s. is	-	-	-	.2
And 4 times 7 is 28, and 3 is	-	-	-	.31
To which, because it exceeds 24, add 1 in the				.001
third place,	-	-	-	.232
				.232

This, however, is not a correct decimal; but, to make it more so, and to make your decimal consist of five places instead of three places, observe the following rule:

Multiply by 4 whatever sum the figures in the second and third places exceed 25, 50, or 75; and if the product extend to or exceed 24, add 1; if to 48, add 2; if to 72, add 3; and this gives the figures in the fourth and fifth places.

### 2. EXAMPLE.

The foregoing decimal is, - - .232

But as 32 exceeds 25 in the sum of 7, therefore 7 multiplied by 4 is 28, to this add 1, because it exceeds 24, and you have 29 for the figures in the fourth and fifth places; and the decimal will then be .23229.

And this method of reducing the fraction of a pound to a decimal fraction, will be found to produce a decimal sufficiently accurate for the general run of mercantile calculations. But should you chuse to have your decimal consist of 7 places, you have only to observe the foregoing rule, taking the figures in the fourth and fifth places, instead of those in the second and third places.

## EXAMPLE.

The foregoing decimal is  $\dots\dots\dots .23229$   
 And as 29 exceeds 25 by the sum of 4, therefore 4 multiplied by 4 is 16; and as this number does not exceed 24, you do not add any thing; the figures therefore in the sixth and seventh places are 16, and the decimal will be  $\dots\dots\dots .2322916 \text{ re.}$

By this last process, the decimal is brought to express the truth, or at least to the repetition of digit, (as in the above example), which being handled in addition, subtraction, multiplication, and division, conform to the rules I shall afterwards give, expresses the truth as exactly as those decimals that are finite.— To conclude with another example.

What is the decimal of 12 s.  $9\frac{3}{4}$  d.?

The half of 12 is  $\dots\dots\dots .6$   
 4 times 9 is 36, and 3 added is 39; but as this number exceeds 24, I put it down  $\dots\dots\dots .040$   
 And 40 exceeds 25 in the sum of 15, therefore 4 times 15 is 60, and as this product is above 48, I add 2 to 60, and have 62 for the fourth and fifth places,  $\dots\dots\dots .00062$   
 And as this last sum exceeds 50 in the sum of 12, therefore 4 times 12 is 48, and 2 added, because the product is 48, gives me 50 for my sixth and seventh places,  $\dots\dots\dots 50$   
 $\dots\dots\dots .6406250$

But the cypher to the right of the decimal being useless, cut it off, and the decimal of 12 s.  $9\frac{3}{4}$  d. is  $\dots\dots\dots .640625 \text{ f.}$   
 being a finite or complete decimal.

To facilitate the finding the decimal fractions of shillings, pence, and farthings in a pound, I now subjoin the following table.

## A TABLE

*Of Farthings, Pence, and Shillings, reduced to the Decimal  
Fractions of a Pound.*

s.	d.	f.	s.	d.	f.
	$\frac{1}{4}$	.0010416 r		$6\frac{1}{4}$	.0260416 r
	$\frac{1}{2}$	.0020833 r		$6\frac{1}{2}$	.0270833 r
	$\frac{3}{4}$	.003125 f		$6\frac{3}{4}$	.028125 f
1		.0041666 r	7		.0291666 r
$1\frac{1}{4}$		.0052083 r	$7\frac{1}{4}$		.0302083 r
$1\frac{1}{2}$		.00625 f	$7\frac{1}{2}$		.03125 f
$1\frac{3}{4}$		.0072916 r	$7\frac{3}{4}$		.0322916 r
2		.0083333 r	8		.0333333 r
$2\frac{1}{4}$		.009375 f	$8\frac{1}{4}$		.034375 f
$2\frac{1}{2}$		.0104166 r	$8\frac{1}{2}$		.0354166 r
$2\frac{3}{4}$		.0114583 r	$8\frac{3}{4}$		.0364583 r
3		.0125 f	9		.0375 f
$3\frac{1}{4}$		.0135416 r	$9\frac{1}{4}$		.0385416 r
$3\frac{1}{2}$		.0145833 r	$9\frac{1}{2}$		.0395833 r
$3\frac{3}{4}$		.015625 f	$9\frac{3}{4}$		.040625 f
4		.0166666 r	10		.0416666 r
$4\frac{1}{4}$		.0177083 r	$10\frac{1}{4}$		.0427083 r
$4\frac{1}{2}$		.01875 f	$10\frac{1}{2}$		.04375 f
$4\frac{3}{4}$		.0197916 r	$10\frac{3}{4}$		.0447916 r
5		.0208333 r	11		.0458333 r
$5\frac{1}{4}$		.021875 f	$11\frac{1}{4}$		.046875 f
$5\frac{1}{2}$		.0229166 r	$11\frac{1}{2}$		.0479166 r
$5\frac{3}{4}$		.0239583 r	$11\frac{3}{4}$		.0489583 r
6		.025 f			
6	3	.3125000	17	3	.8625000
			6	3	.3125000
			L. 1	3	6=1.1750000

s.	d.	s.	d.		
1	0	.05	11	0	.55
2	0	.1	12	0	.6
3	0	.15	13	0	.65
4	0	.2	14	0	.7
5	0	.25	15	0	.75
6	0	.3	16	0	.8
7	0	.35	17	0	.85
8	0	.4	18	0	.9
9	0	.45	19	0	.95
10	0	.5			
<hr/>		6	15	=	6.75
L. 2 15 =		2	15	=	2.75
<hr/>		<hr/>			
		L. 10	10	=	10.50



To make this table quite correct, and that it might prove itself, I have extended all the repeating decimals one place beyond the finite decimal of the greatest number of places, and, in the addition of the repeating decimals, I have carried 1 for every 9 that is contained in the amount, to the next rank, and as each of these amounted to 72, I have put down a cypher, and carried 8 to the next rank.

### ARTICLE III.

*To Reduce the Decimal Fraction of a Pound to such parts as a Pound is usually divided into.*

**F**OR example, we shall take the decimal .05625. (Vide 1st Example in Article 2.) Now, what we want to know, is the value of this decimal fraction (of .05625) in shillings, pence, and farthings. Here, then, observe, that as any number of pounds multiplied by 20, will give as many shillings as are equal to the number of pounds, so the decimal part of a pound multiplied by 20, will give as many shillings and decimal parts of a shilling as are equivalent to the decimal; and the decimal parts of a shilling multiplied by 12, will give as many pence and decimal parts of a penny as are equivalent to that decimal; and the decimal parts of a penny multiplied by 4, will give as many farthings and decimal parts of a farthing as are equivalent to that decimal.

*Inde*, .05625 multiplied by 20, is 112500; but as the decimal consisted only of five places, and the product consists of six places, point off one figure to the left, which is an integer, (or shillings), and therefore shews, that .05625 of a pound is equal to 1 shilling  
12500;



12500; but as the cyphers are of no use, they may be cut off, and it will then stand 1.125; and this decimal of .125, multiplied by 12, the product is 1500; and by pointing off one figure to the left, you will find that this decimal .125 of a shilling, is equal to 1 d. 500 thousandth parts of a penny; but the cyphers being of no value, may be cut off, and the decimal will then stand 1.5; and this last decimal of .5, multiplied by 4, the product is 20, and thus, pointing off one figure to the left, I have 2, that is 2 farthings: Therefore the value of .05625 of a pound is 1 s.  $1\frac{1}{4}$  d.

*Note.* There is a short method of finding the value of a decimal fraction, by inspection, and the rule for this operation is,

Double the figure next the decimal point gives shillings, and if the figure in the second place be 5 or more, add 1 to the shillings, then term what is under or more than 5 in the second place, tens, and the figure in the third place, units, from which take 1, if they extend to or exceed 25, then divide the same by 4, the product is pence, and the remainder farthings. Let us, to illustrate this, take the first example in the note to Article 2.

This decimal, uncorrected, stands .232; then, by doubling the first figure, I have 4 shillings, and 32 of the decimal remaining; but as this number exceeds 25, subtract 1 from it, which leaves 31, which, divided by 4, gives 7 for pence, and 3 remaining, which is farthings: therefore the decimal .232 is equal to 4 s.  $7\frac{1}{4}$  d.

2d EXAMPLE,

$$\begin{array}{r}
 .640 \\
 2 \\
 \hline
 12.40 \\
 \text{Deduct, as exceeding 25,} \quad - \quad 1 \\
 \hline
 4)39 \\
 \hline
 9.3
 \end{array}$$

Therefore the decimal .640 is equal to 12 s.  $9\frac{3}{4}$  d.

## ARTICLE IV.

## ADDITION.

**A**DDITION in decimals is performed in the same manner as in whole numbers, observing to place the points one under another.

	L.	s.	d.	f.
As thus, .0562 =	0	1	$1\frac{1}{4}$	
.2322 =	0	4	$7\frac{3}{4}$	
.6406 =	0	12	$9\frac{3}{4}$	
<hr/>	<hr/>	<hr/>	<hr/>	
.9290 =	0	18	7	

If there are any repeating decimals in the sums to be added, then, in summing up the rank of figures next the right hand, carry 1 for every 9 to the next rank; but remember to make the repeating decimal or decimals consist of a place more than the finite decimal which consists of most places.

Ex.

## EXAMPLE.

	<i>L.</i>	<i>s.</i>	<i>d.</i>
.05625	= 0	1	$1\frac{1}{4}$
.2322916 <i>r</i>	= 0	4	$7\frac{3}{4}$
.640625	= 0	12	$9\frac{3}{4}$
.3333333 <i>r</i>	= 0	6	8
<hr/>			
1.2625000	= 1	5	3
20			

5.2500

12

3.00

is L. 1 : 5 : 3, as above.

## ARTICLE V.

## SUBTRACTION.

**P**LACE the points under one another, and then subtract agreeable to the following directions.

When both fractions are finite, make them consist of an equal number of places ; as,

$$\begin{array}{r} \text{Ex. 1. } 3\frac{3}{4} = .015625 \\ \quad \frac{1}{4} = .003125 \\ \hline \end{array}$$

3 = .012500 This decimal fraction is finite.

When one of the fractions has a repeating digit, make the fraction having a repeating digit to consist of one place more than the finite decimal, and the difference is a repeating fraction.

$$\begin{array}{r} \text{Ex. 2. } 3\frac{3}{4} = .0145833 \\ \quad 2\frac{1}{4} = .009375 \\ \hline \end{array}$$

$1\frac{1}{4} = .0052083$  This decimal fraction repeats.

B

But

But if the subtrahend has a repeating digit, and the decimal to be subtracted from is finite, then subtract your repeating digit from 9, and carry 1 to the next place in the subtrahend, and the difference is a repeating fraction.

$$\begin{array}{rcl}
 \text{Ex. 3.} & d. f. & \\
 & 3\frac{1}{4} = .015625 & \\
 & 3\frac{1}{2} = .0145833 & \\
 \hline
 & 0\frac{1}{4} = .0010416 & \text{Repeats.}
 \end{array}$$

When the greater number contains a repeating digit of less value than the repeating digit in the subtrahend, add 9 to the digit of less value, and subtract from that the digit in the subtrahend, and the difference is a repeating fraction.

$$\begin{array}{rcl}
 \text{Ex. 4.} & d. f. & \\
 & 3\frac{1}{2} = .0145833 & \\
 & 2\frac{1}{2} = .0104166 & \\
 \hline
 & 1 = .0041666 &
 \end{array}$$

When both numbers contain repeating digits, and the greater number is a repeating digit of higher value than the lesser number, the difference is a repeating fraction; as,

$$\begin{array}{rcl}
 \text{Ex. 5.} & d. f. & \\
 & 5\frac{1}{2} = .0229166 & \\
 & 5 = .0208333 & \\
 \hline
 & 0\frac{1}{2} = .0020833 & \text{Repeats.}
 \end{array}$$

N. B. Repeating digits of equal value destroy one another, and the remainder is a finite decimal; as,

Ex.

$$\begin{array}{rcl}
 \text{Ex. 6.} & d.f. & \\
 7 & = & .0291666 \\
 5\frac{1}{2} & = & .0229166 \\
 \hline
 1\frac{1}{2} & = & .0062500
 \end{array}$$

## ARTICLE VI.

*Of the MULTIPLICATION of Decimal Fractions.*

**T**HERE is no difference betwixt the multiplication of decimals and the multiplication of whole numbers, till the product is obtained; then set off as many places towards the right hand of the product as there are decimal places in multiplicand and multiplier; and if there are not figures enough in the product to make up the number of places, supply this want by placing cyphers to the left hand of the product.

Let it be required to multiply 5.24 by 4.6; then, considering both factors as whole numbers, I have 524 and 46.

$$\begin{array}{r}
 \text{Ex. 1.} \quad 524 \\
 \quad \quad 46 \\
 \hline
 \quad \quad 3144 \\
 \quad 2096 \\
 \hline
 \end{array}$$

*Inde* the product, 24104

But considering I had two decimal places in the multiplicand and one decimal place in the multiplier, I must set off three decimal places in the product: the answer will then be 24.104.

$$\begin{array}{r}
 \text{Ex. 2.} \quad .000125 \\
 \quad \quad .0025 \\
 \hline
 \quad \quad \quad 625 \\
 \quad \quad \quad 250 \\
 \hline
 .0000003125 \\
 \text{B 2}
 \end{array}$$

*Note*



*Note.* Respecting the multiplication of the decimal fractions of a pound.

From the table of the decimal fractions of a pound you will observe, that if there is any repeating digit in the decimal of a pound, it is invariably either 3 or 6. Then,

If the repeating digit be 3 in the multiplier, and the multiplicand is a finite decimal, before you begin your operation, take  $\frac{1}{3}$  of the multiplicand and put it down, and then proceed with your work as in the multiplication of whole numbers. But if the repeating digit be 3 in the multiplicand, and the multiplier is a finite decimal, put down  $\frac{1}{3}$  of the multiplier, and then proceed as in multiplication of whole numbers.

If, in like manner, either multiplier or multiplicand contain a repeating digit of 6, and the other is a finite decimal, set down  $\frac{2}{3}$  of the finite or complete decimal, and then proceed as in the multiplication of whole numbers.

But if both multiplicand and multiplier contain a repeating digit, observe the following directions :

When the multiplier contains the repeating digit of 3, and the multiplicand the repeating digit of 6, take  $\frac{1}{3}$  of the multiplicand, and  $\frac{2}{3}$  of the multiplier, before you begin to multiply ; or, when the multiplier contains the repeating digit of 6, and the multiplicand the repeating digit of 3, take  $\frac{2}{3}$  of the multiplicand, and  $\frac{1}{3}$  of the multiplier, and set them down before you begin to multiply.

If both multiplicand and multiplier contain the repeating digit of 3, take  $\frac{1}{3}$  of both factors. If both multiplicand and multiplier contain the repeating digit of 6, take  $\frac{2}{3}$  of both factors, before you begin your operation.



## ARTICLE VII.

*Of Division of DECIMALS.*

**D**IVISION of decimal fractions is performed in the same manner as division of whole numbers, after your division, observing to cut off as many decimal places from the quotient as the number of decimal places in the dividend exceeds the number of places in the divisor. Let it be proposed to divide 12.468 by 3.2. Here, dividing the whole number 12468 by 32, the quotient is 389; but as the dividend exceeded the divisor in two decimal places, you must cut off two decimal places from the right of the quotient, and so make the answer 3.89; but as this quotient is not exact, if, for the sake of correctness, you were to continue it for three decimal places more, you have only to add three decimal cyphers to the divisor, and then it would stand 12468000; and this divided by 32, the quotient is exact 389625; but as by adding three cyphers to the dividend it exceeded the divisor in five decimal places, you must therefore set off five figures to the right of the quotient, and the answer is 3.89625. Again, let it be required to divide 12.468 by 32: Here, by adding three cyphers to the dividend, you have the same quotient 389625; but as there were no decimal places in the divisor, and six decimal places in the dividend, the answer is .389625. Again, let it be required to divide 12.468 by 320; here, by adding three cyphers to the dividend, the quotient would only be 38962; but to get a correct answer, you must add four cyphers to the dividend, and it would then stand 124680000, and this divided by 320, a whole number, gives the quotient 389625; but as the dividend had seven decimal places more than the divisor, and there are only six figures in the quotient, you must supply this want of a figure in  
the

the quotient by placing a cypher to the left of the quotient, which decreases the value of the decimal, and the answer will be .0389625.

*Note.* Respecting the division of repeating decimals.

If the divisor be a whole number or a finite decimal, and the dividend contain a repeating digit, in place of putting down cyphers to the right of the dividend, repeat the digit.

When the divisor contains a repeating digit, and the dividend is a finite decimal, or has a repeating digit of less value than the divisor, in multiplying the repeating digit in the divisor, carry 1 for every 9 to the next figure in the multiplication. If divisor and dividend contain repeating digits of equal value, as they destroy one another, set neither of them down after they meet in the operation, but alter the digits to cyphers.

## ARTICLE VIII.

### *Of PROPORTION, or the RULE of THREE.*

*Note.* Before entering upon this, it may not be unnecessary to make the following observations.

**I**N the Single Rule of Three Direct, the fourth number is found by multiplying the second and third numbers together, and dividing this product by the first, the quotient is the answer.

In the Double Rule of Three Direct, multiply the two first terms into one another, and the three last terms into one another, divide this product by the product of the two first terms, and the quotient is the answer.

In the Rule of Three Inverse, the fourth number is found by multiplying the first and second numbers together, and dividing this product by the third number.

ber. And to distinguish what questions belong to this rule or to the rule of three direct, you have only to observe, that when *plus* requires *plus*, or *minus* requires *minus*, all such questions belong to the rule of three direct; but when *plus* requires *minus*, or *minus* requires *plus*, then such questions belong to the rule of three inverse.

In the Double Rule of Three Inverse, where the numbers are ordered as in the double rule of three direct, multiply the three middle numbers together, and divide this product by the product of the extremes, and the quotient is the answer.

*Double Rule of Three Direct.*

EXAMPLE.

If 20 men in 30 days gain L. 40, how much will 50 men gain in 60 days?

$$\begin{array}{rclcl}
 20 & 30 & : & 40 & : : & 50 & 60 \\
 & 20 & & 40 & & & \\
 \hline
 & 600 & & 2000 & & & \\
 & & & 60 & & & \\
 \hline
 & & & 1200 & & & 
 \end{array}$$

$$600 \overline{) 1200} 200$$

200 Answer.

*Single Rule of Three Inverse.*

EXAMPLE.

If 2 horses eat up a field of clover in 8 days, how long will it maintain 4 horses.

$$\text{If } 2 : 8 :: 4$$

$$\begin{array}{r}
 2 \\
 \hline
 4 \overline{) 16} \\
 \hline
 4
 \end{array}$$

4 Answer, 4 days.

*Double*

*Double Rule of Three Inverse.*

## EXAMPLE.

If L. 20 will maintain 30 men 6 days, how long will L. 60 maintain 90 men?

If 20 30 : 6 :: 60 90

$$\begin{array}{r} \cdot 90 \\ \hline 1800 \end{array} \qquad \begin{array}{r} 6 \\ \hline 360 \\ \hline 30 \end{array}$$

18|00)108|00(6 Answer, 6 days.  
108

*Of Proportion by Decimals.*

The rule of three in decimal fractions is managed in the same manner as in whole numbers, but shortens greatly your operations when fractions of a pound are to be divided by one another.

To give an example, and lay down a method how a sum of money may be divided amongst creditors ranked *pari passu* upon a bankrupt subject.

The amount of the estate is the dividend, the amount of claims the divisor, the quotient will show how much each creditor is to draw per pound.

Let the amount of the estate be L. 8600 : 7 : 3, and against which there are the following claims :

J. L.'s claim,	-	L. 2250	2	6
H. S.'s ditto,	-	5675	10	0
L. R.'s ditto,	-	530	12	6
R. H.'s ditto,	-	788	15	0
A. B.'s ditto,	-	7865	5	0
R. C.'s ditto,	-	2264	7	6

Amount of claims, L. 19374 12 6

*Inde*, If L. 19374 : 12 : 6 draw L. 8600 : 7 : 3, what will L. 1 draw ?

Or, If L. 19374.625 draw L. 8600.3625, what will L. 1 draw ?

Let

Let us now represent them as whole numbers, adding as many cyphers to the right of the dividend as you wish to make the quotient consist of decimal places, suppose nine: you will find this may be done by adding eight cyphers to the dividend, and it will then stand thus, 19374625)8600362500000000(

The quotient will be 443898268, with a remainder of 19350500. But this remainder being almost equal to the divisor, put down the quotient 443898269, and in doing so you will not alter your calculation the ten thousandth part of a farthing. From this quotient construct the following table :

L. 1 =	.443898269
2 =	.887796538
3 =	1.331694807
4 =	1.775593076
5 =	2.219491345
6 =	2.663389614
7 =	3.107287883
8 =	3.551186152
9 =	3.995084421
10 =	4.438982690

And, to prove this table, take out the amount of the whole claims.

L.	s.	d.	L.
10000	0	0 =	4438 982690
9000	0	0 =	3995.084421
300	0	0 =	133.1694807
70	0	0 =	31.07287883
4	0	0 =	1.775593076
0	10	0 =	.221949134
0	2	6 =	.055487283

$$\text{L. } 19374 \ 12 \ 6 = 8600.362500023$$

So that the difference is only the twenty-three hundred millionth part of a farthing.



$$\begin{array}{l} \text{J. L.'s claim, } \left\{ \begin{array}{l} 2000 \quad 0 \quad 0 = 887.796538 \\ 200 \quad 0 \quad 0 \quad 88.7796538 \\ 50 \quad 0 \quad 0 \quad 22.19491345 \\ 0 \quad 2 \quad 6 \quad .055487283 \end{array} \right. \end{array}$$

$$\text{L. } 2250 \quad 2 \quad 6 \quad 998.826592533$$

$$\begin{array}{l} \text{H. S.'s claim, } \left\{ \begin{array}{l} 5000 \quad 0 \quad 0 = 2219.491345 \\ 600 \quad 0 \quad 0 \quad 266.3389614 \\ 70 \quad 0 \quad 0 \quad 31.07287883 \\ 5 \quad 0 \quad 0 \quad 2.219491345 \\ 0 \quad 10 \quad 0 \quad .221949134 \end{array} \right. \end{array}$$

$$\text{L. } 5675 \quad 10 \quad 0 \quad 2519.344625709$$

$$\begin{array}{l} \text{L. R.'s claim, } \left\{ \begin{array}{l} 500 \quad 0 \quad 0 = 221.9491345 \\ 30 \quad 0 \quad 0 \quad 13.31694807 \\ 0 \quad 10 \quad 0 \quad .221949134 \\ 0 \quad 2 \quad 6 \quad .055487283 \end{array} \right. \end{array}$$

$$\text{L. } 530 \quad 12 \quad 6 \quad 235.543518987$$

$$\begin{array}{l} \text{R. H.'s claim, } \left\{ \begin{array}{l} 700 \quad 0 \quad 0 = 310.7287883 \\ 80 \quad 0 \quad 0 \quad 35.51186152 \\ 8 \quad 0 \quad 0 \quad 3.551186152 \\ 0 \quad 10 \quad 0 \quad .221949134 \\ 0 \quad 5 \quad 0 \quad .110974567 \end{array} \right. \end{array}$$

$$\text{L. } 788 \quad 15 \quad 0 \quad 350.124759673$$

$$\begin{array}{l} \text{A. B.'s claim, } \left\{ \begin{array}{l} 7000 \quad 0 \quad 0 = 3107.287883 \\ 800 \quad 0 \quad 0 \quad 355.1186152 \\ 60 \quad 0 \quad 0 \quad 26.63389614 \\ 5 \quad 0 \quad 0 \quad 2.219491345 \\ 0 \quad 5 \quad 0 \quad .110974567 \end{array} \right. \end{array}$$

$$\text{L. } 7865 \quad 5 \quad 0 \quad 3491.370860282$$

R.



	L.	s.	d.	=	L.
	2000	0	0	=	887.796538
	200	0	0	=	88.7796538
R. C.'s claim,	60	0	0	=	26.63389614
	4	0	0	=	1.775593076
	0	5	0	=	.110974567
	0	2	6	=	.055487283
	<hr/>				<hr/>
L.	2264	7	6		1005.152142866

	L.		L.	s.	d.
J. L.'s share,	998.826592533	=	998	16	6 $\frac{1}{2}$
H. S.'s ditto,	2519.344625709	=	2519	6	10 $\frac{3}{4}$
L. R.'s ditto,	235.543518987	=	235	10	10 $\frac{1}{2}$
R. H.'s ditto,	350.124759673	=	350	2	6 $\frac{1}{4}$
A. B.'s ditto,	3491.370860282	=	3491	7	5 $\frac{1}{4}$
R. C.'s ditto,	1005.152142866	=	1005	3	0

L. 8600 7 3

The preceding table would have answered equally well, had there been sixty (in place of six) creditors, whose demands amounted to L. 19374 : 12 : 6, and the subject to L. 8600 : 7 : 3.

*Note.* When you come to use logarithms in proportioning dividends amongst creditors ranked *pari passu*, this tedious calculation will be quite unnecessary.

## ARTICLE IX.

### *Of Simple Interest.*

*Note.* **F**OR 4 per cent. multiply the sum by the number of days, and divide the product by 91.25.

For 5 per cent. multiply the sum by the number of days, and divide the product by 73, cutting off two decimal places to the right in the quotient.

For 4 $\frac{1}{2}$  per cent. subtract  $\frac{1}{10}$  from 5 per cent.

For 5 $\frac{1}{2}$  per cent. add  $\frac{1}{10}$  to 5 per cent.

C 2

T A.

TABLE, shewing the Interest of L. 1, from 1 to 9 Days, at the rate of 4,  $4\frac{1}{2}$ , and 5 per cent.

Days. 4 per cent.	Days. $4\frac{1}{2}$ per cent.	Days. 5 per cent.
1 .0001095891	1 .0001232876	1 .0001369863
2 .0002191782	2 .0002465752	2 .0002739726
3 .0003287673	3 .0003698628	3 .0004109589
4 .0004383564	4 .0004931504	4 .0005479452
5 .0005479455	5 .0006164380	5 .0006849315
6 .0006575346	6 .0007397256	6 .0008219178
7 .0007671237	7 .0008630132	7 .0009589041
8 .0008767128	8 .0009863008	8 .0010958904
9 .0009863019	9 .0011095884	9 .0012328767

To calculate interest by the preceding table, multiply your sum by the number of days, and if the product amounts to 10 or upwards, point off one figure to the left; if 100 and upwards, two figures; if 1000, three figures; if 10,000, four figures.

EXAMPLE.

What is the interest of L. 10 for 70 days, at  $4\frac{1}{2}$  per cent.?

$$\begin{array}{r} \text{L. } 10 \\ \text{Days } 70 \\ \hline 700 \end{array}$$

And, opposite to 7 in the table for  $4\frac{1}{2}$  per cent. I find .0008630132.

And pointing off two figures to the left, the decimal is 00.08630132; and the value of this, by inspection, is 1 s.  $8\frac{1}{2}$  d.

Had it been for 700 days,

$$\begin{array}{r} \text{L. } 10 \\ \text{Days } 700 \\ \hline 7000 \end{array}$$

Decimal, 000.8630132.

Value, 17 s.  $3\frac{1}{2}$  d.

The

The following table shews the exact number of days from any day proposed in any month to the same day of any other month throughout the year, by inspection.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	
Jan.	365	334	306	275	245	214	184	153	122	92	61	31	Jan.
Feb.	31	365	337	306	276	245	215	184	153	123	92	62	Feb.
Mar.	59	28	365	334	304	273	243	212	181	151	120	90	Mar.
April	90	59	31	365	335	304	274	243	212	182	151	121	April
May	120	89	61	30	365	334	304	273	242	212	181	151	May
June	151	120	92	61	31	365	335	304	273	243	212	182	June
July	181	150	122	91	61	30	365	334	303	273	242	212	July
Aug.	212	181	153	122	92	61	30	365	334	304	273	243	Aug.
Sep.	243	212	184	153	123	92	62	31	365	335	304	274	Sept.
Oct.	273	242	214	183	153	122	92	61	30	365	334	304	Oct.
Nov.	304	273	245	214	184	153	123	92	61	31	365	335	Nov.
Dec.	334	303	275	244	214	183	153	122	91	61	30	365	Dec.

#### EXAMPLE.

From the 10th July to the 10th April. I find July at the head, and look down the column, and over against April I find 274. And if you want to know the number of days from the 17th July to the 10th April, you have only to subtract the difference betwixt 10 and 17, or 7 days from 274, and your answer is 267 : or if you wish to know the number of days from 3d July to 10th April, you have only to add the difference betwixt 3 and 10, or 7 to 274, and 281 is the answer.

The

The foregoing short treatise upon decimals being well understood, will make the use of logarithms simple and easy. I shall therefore conclude this treatise with an endeavour to point out, in as clear and concise a manner as I possibly can, the use of logarithms in the calculation of compound interest and in making out schemes of division amongst creditors ranked *pari passu* upon a bankrupt estate.

*Note.* In making use of logarithms, the affirmative and negative signs must be carefully attended to.

The characteristic and decimal part of the logarithms of absolute numbers are affirmative. The logarithm of a pure decimal has the characteristic negative, but the decimal part of such logarithm is affirmative.

To find the characteristic of a logarithm of a whole number, or a mixed number consisting of integral and decimal parts, observe the following rule.

So many removes as is the unit of the whole number to the right of the first figure, of so many units will your characteristic consist.

#### EXAMPLE.

Required the characteristic of the logarithm for L. 56787.95. — Here you see 7, the unit of the whole number, is four removes from 5, therefore the characteristic of the logarithm must be 4, with some decimal parts after it.

To find the characteristic of a logarithm of a pure decimal, the rule is, As many removes as is the place of units to the left of the first significant figure in the decimal, of so many negative units will the characteristic consist.

#### EXAMPLE.

## EXAMPLE.

Required, the characteristic of the pure decimal 0.005678.—Here you see the place of units is the third from 5, the first significant figure in the decimal; hence the characteristic of this logarithm must be 3 negative, or — 3, with some affirmative decimal parts after it.

Addition of logarithms is equivalent to the multiplication of the natural numbers they represent, and the subtraction of logarithms is equivalent to the division of the natural numbers they represent.

The above note being carefully attended to, the use of logarithms, in place of natural numbers, will be simple and easy.

## A Table of Logarithms from 1 to 10,000.

No	Log.	No	Log.	No	Log.	No	Log.	No	Log.
1	0.00000	21	1.32222	41	1.61278	61	1.78533	81	1.90848
2	0.30103	22	34742	42	62324	62	79239	82	91381
3	0.47712	23	36173	43	63347	63	79934	83	91908
4	0.60206	24	38021	44	64345	64	80618	84	92428
5	0.69897	25	39794	45	65321	65	81291	85	92942
6	0.77815	26	41497	46	66276	66	81954	86	93450
7	0.84510	27	43136	47	67210	67	82607	87	93952
8	0.90309	28	44716	48	68124	68	83251	88	94448
9	0.95424	29	46240	49	69020	69	83885	89	94939
10	1.00000	30	47712	50	69897	70	84510	90	95424
11	1.04139	31	1.49136	51	1.70757	71	1.85126	91	1.95904
12	0.9918	32	50513	52	71600	72	85733	92	96379
13	1.1394	33	51851	53	72428	73	86332	93	96848
14	1.4613	34	53148	54	73239	74	86923	94	97313
15	1.7609	35	54407	55	74036	75	87506	95	97772
16	2.0412	36	55630	56	74819	76	88081	96	98227
17	2.3045	37	56820	57	75587	77	88649	97	98677
18	2.5527	38	57978	58	76343	78	89209	98	99123
19	2.7875	39	59106	59	77085	79	89763	99	99563
20	3.0703	40	60206	60	77815	80	90309	100	2.00000



A Table of Logarithms from 1 to 10,000.

No.	0	1	2	3	4	5	6	7	8	9
100	2.00000	2.00043	2.00087	2.00130	2.00173	2.00217	2.00260	2.00303	2.00346	2.00389
101	00432	00475	00518	00561	00604	00647	00689	00732	00775	00817
102	00860	00903	00945	00988	01030	01072	01115	01157	01199	01242
103	01284	01326	01368	01410	01452	01494	01536	01578	01620	01661
104	01703	01745	01787	01828	01870	01912	01953	01995	02036	02077
105	02119	02160	02202	02243	02284	02325	02366	02407	02449	02490
106	02531	02571	02611	02653	02694	02735	02776	02816	02857	02898
107	02938	02979	03019	03060	03100	03141	03181	03222	03262	03302
108	03342	03383	03423	03463	03503	03543	03583	03623	03663	03703
109	03743	03782	03822	03862	03902	03941	03981	04021	04060	04100
110	2.04139	2.04179	2.04218	2.04257	2.04297	2.04336	2.04375	2.04415	2.04454	2.04493
111	04532	04571	04610	04649	04688	04727	04766	04805	04844	04883
112	04922	04961	04999	05038	05077	05115	05154	05192	05231	05269
113	05308	05346	05385	05423	05461	05500	05538	05576	05614	05652
114	05690	05729	05767	05805	05843	05880	05918	05956	05994	06032
115	06070	06108	06145	06183	06221	06258	06296	06333	06371	06408
116	06446	06483	06521	06558	06595	06633	06670	06707	06744	06781
117	06819	06856	06893	06930	06967	07004	07041	07078	07114	07151
118	07188	07225	07262	07298	07335	07372	07408	07445	07482	07518
119	07555	07591	07628	07664	07700	07737	07773	07809	07846	07882
120	2.07918	2.07954	2.07990	2.08027	2.08063	2.08099	2.08135	2.08171	2.08207	2.08243
121	08278	08314	08350	08386	08422	08458	08493	08529	08565	08600
122	08636	08672	08707	08743	08778	08814	08849	08884	08920	08955
123	08990	09026	09061	09096	09131	09167	09202	09237	09272	09307
124	09342	09377	09412	09447	09482	09517	09552	09587	09621	09656
125	09691	09726	09760	09795	09830	09864	09899	09933	09968	10003
126	10037	10071	10106	10140	10175	10209	10243	10278	10312	10346
127	10380	10414	10449	10483	10517	10551	10585	10619	10653	10687
128	10721	10755	10789	10823	10856	10890	10924	10958	10992	11025
129	11059	11093	11126	11160	11193	11227	11260	11294	11327	11361
130	2.11394	2.11428	2.11461	2.11494	2.11528	2.11561	2.11594	2.11628	2.11661	2.11694
131	11727	11760	11793	11826	11860	11893	11926	11959	11991	12024
132	12057	12090	12123	12156	12189	12222	12254	12287	12320	12352
133	12385	12418	12450	12483	12516	12548	12581	12613	12646	12678
134	12710	12743	12775	12808	12840	12872	12904	12936	12969	13001
135	13033	13065	13098	13130	13162	13194	13226	13258	13290	13322
136	13354	13386	13418	13450	13481	13513	13545	13577	13609	13640
137	13672	13704	13735	13767	13799	13830	13862	13893	13925	13956
138	13988	14019	14051	14082	14114	14145	14176	14208	14239	14270
139	14301	14333	14364	14395	14426	14457	14488	14520	14551	14582
140	2.14613	2.14644	2.14675	2.14706	2.14737	2.14768	2.14798	2.14829	2.14860	2.14891
141	14922	14953	14983	15014	15045	15076	15106	15137	15168	15198
142	15229	15259	15290	15320	15351	15381	15412	15442	15473	15503
143	15534	15564	15594	15625	15655	15685	15715	15746	15776	15806
144	15836	15866	15896	15927	15957	15987	16017	16047	16077	16107
145	16137	16167	16197	16227	16256	16286	16316	16346	16376	16405
146	16435	16465	16495	16524	16554	16584	16613	16643	16673	16702
147	16732	16761	16791	16820	16850	16879	16909	16938	16967	16997
148	17026	17055	17085	17114	17143	17173	17202	17231	17260	17289
149	17319	17348	17377	17406	17435	17464	17493	17522	17551	17580
150	2.17609	2.17638	2.17667	2.17696	2.17725	2.17754	2.17782	2.17811	2.17840	2.17869
151	17898	17926	17955	17984	18013	18041	18070	18099	18127	18156
152	18184	18213	18241	18270	18298	18327	18355	18384	18412	18441
153	18469	18497	18526	18554	18583	18611	18639	18667	18696	18724
154	18752	18780	18808	18837	18865	18893	18921	18949	18977	19005
155	19033	19061	19089	19117	19145	19173	19201	19229	19257	19285
156	19312	19340	19368	19396	19424	19451	19479	19507	19535	19562
157	19590	19618	19645	19673	19700	19728	19756	19783	19811	19838
158	19866	19893	19921	19948	19975	20003	20030	20058	20085	20112
159	20140	20167	20194	20222	20249	20276	20303	20330	20358	20385



# A Table of Logarithms from 1 to 10,000.

25

No.	0	1	2	3	4	5	6	7	8	9
160	2.20412	2.20439	2.20466	2.20493	2.20520	2.20547	2.20574	2.20602	2.20629	2.20656
161	2.20683	2.20709	2.20736	2.20763	2.20790	2.20817	2.20844	2.20871	2.20898	2.20925
162	2.20951	2.20978	2.21005	2.21032	2.21059	2.21085	2.21112	2.21139	2.21165	2.21192
163	2.21219	2.21245	2.21272	2.21299	2.21325	2.21352	2.21378	2.21405	2.21431	2.21458
164	2.21484	2.21511	2.21537	2.21564	2.21590	2.21617	2.21643	2.21669	2.21696	2.21722
165	2.21748	2.21775	2.21801	2.21827	2.21853	2.21880	2.21906	2.21932	2.21958	2.21985
166	2.22011	2.22037	2.22063	2.22089	2.22115	2.22141	2.22167	2.22194	2.22220	2.22246
167	2.22272	2.22298	2.22324	2.22350	2.22375	2.22401	2.22427	2.22453	2.22479	2.22505
168	2.22531	2.22557	2.22583	2.22608	2.22634	2.22660	2.22686	2.22711	2.22737	2.22763
169	2.22789	2.22814	2.22840	2.22866	2.22891	2.22917	2.22943	2.22968	2.22994	2.23019
170	2.23045	2.23070	2.23096	2.23121	2.23147	2.23172	2.23198	2.23223	2.23249	2.23274
171	2.23300	2.23325	2.23350	2.23376	2.23401	2.23426	2.23452	2.23477	2.23502	2.23528
172	2.23553	2.23578	2.23603	2.23628	2.23654	2.23679	2.23704	2.23729	2.23754	2.23779
173	2.23805	2.23830	2.23855	2.23880	2.23905	2.23930	2.23955	2.23980	2.24005	2.24030
174	2.24055	2.24080	2.24105	2.24130	2.24155	2.24179	2.24204	2.24229	2.24254	2.24279
175	2.24304	2.24329	2.24353	2.24378	2.24403	2.24428	2.24452	2.24477	2.24502	2.24527
176	2.24551	2.24576	2.24601	2.24625	2.24650	2.24674	2.24699	2.24724	2.24748	2.24773
177	2.24797	2.24822	2.24846	2.24871	2.24895	2.24920	2.24944	2.24969	2.24993	2.25018
178	2.25042	2.25066	2.25091	2.25115	2.25139	2.25164	2.25188	2.25212	2.25237	2.25261
179	2.25285	2.25310	2.25334	2.25358	2.25382	2.25406	2.25431	2.25455	2.25479	2.25503
180	2.25527	2.25551	2.25575	2.25600	2.25624	2.25648	2.25672	2.25696	2.25720	2.25744
181	2.25768	2.25792	2.25816	2.25840	2.25864	2.25888	2.25912	2.25935	2.25959	2.25983
182	2.26007	2.26031	2.26055	2.26079	2.26102	2.26126	2.26150	2.26174	2.26198	2.26222
183	2.26245	2.26269	2.26292	2.26316	2.26340	2.26364	2.26387	2.26411	2.26434	2.26458
184	2.26482	2.26505	2.26529	2.26552	2.26576	2.26600	2.26623	2.26647	2.26670	2.26694
185	2.26717	2.26741	2.26764	2.26787	2.26811	2.26834	2.26858	2.26881	2.26905	2.26928
186	2.26951	2.26975	2.26998	2.27021	2.27045	2.27068	2.27091	2.27114	2.27138	2.27161
187	2.27184	2.27207	2.27231	2.27254	2.27277	2.27300	2.27323	2.27347	2.27370	2.27393
188	2.27416	2.27439	2.27462	2.27485	2.27508	2.27531	2.27554	2.27577	2.27600	2.27623
189	2.27646	2.27669	2.27692	2.27715	2.27738	2.27761	2.27784	2.27807	2.27830	2.27852
190	2.27875	2.27898	2.27921	2.27944	2.27967	2.27989	2.28012	2.28035	2.28058	2.28081
191	2.28103	2.28126	2.28149	2.28171	2.28194	2.28217	2.28239	2.28262	2.28285	2.28307
192	2.28330	2.28353	2.28375	2.28398	2.28420	2.28443	2.28466	2.28488	2.28511	2.28532
193	2.28556	2.28578	2.28601	2.28623	2.28646	2.28668	2.28690	2.28713	2.28735	2.28758
194	2.28780	2.28802	2.28825	2.28847	2.28870	2.28892	2.28914	2.28937	2.28959	2.28981
195	2.29003	2.29026	2.29048	2.29070	2.29092	2.29115	2.29137	2.29159	2.29181	2.29203
196	2.29226	2.29248	2.29270	2.29292	2.29314	2.29336	2.29358	2.29380	2.29402	2.29424
197	2.29447	2.29469	2.29491	2.29513	2.29535	2.29557	2.29579	2.29601	2.29623	2.29645
198	2.29666	2.29688	2.29710	2.29732	2.29754	2.29776	2.29798	2.29820	2.29842	2.29863
199	2.29885	2.29907	2.29929	2.29951	2.29972	2.29994	3.00016	3.00038	3.00059	3.00081
200	2.30103	2.30125	2.30146	2.30168	2.30190	2.30211	2.30233	2.30255	2.30276	2.30298
201	2.30320	2.30341	2.30363	2.30384	2.30406	2.30427	2.30449	2.30471	2.30492	2.30514
202	2.30535	2.30557	2.30578	2.30600	2.30621	2.30642	2.30664	2.30685	2.30707	2.30728
203	2.30750	2.30771	2.30792	2.30814	2.30835	2.30856	2.30878	2.30899	2.30920	2.30942
204	2.30963	2.30984	2.31006	2.31027	2.31048	2.31069	2.31091	2.31112	2.31133	2.31154
205	2.31175	2.31197	2.31218	2.31239	2.31260	2.31281	2.31302	2.31323	2.31344	2.31366
206	2.31387	2.31408	2.31429	2.31450	2.31471	2.31492	2.31513	2.31534	2.31555	2.31576
207	2.31597	2.31618	2.31639	2.31660	2.31681	2.31702	2.31723	2.31744	2.31765	2.31785
208	2.31806	2.31827	2.31848	2.31869	2.31890	2.31911	2.31932	2.31952	2.31973	2.31994
209	2.32015	2.32035	2.32056	2.32076	2.32098	2.32118	2.32139	2.32160	2.32180	2.32201
210	2.32222	2.32243	2.32263	2.32284	2.32305	2.32325	2.32346	2.32366	2.32387	2.32408
211	2.32428	2.32449	2.32469	2.32490	2.32510	2.32531	2.32552	2.32572	2.32593	2.32613
212	2.32634	2.32654	2.32674	2.32695	2.32715	2.32736	2.32756	2.32777	2.32797	2.32818
213	2.32838	2.32858	2.32879	2.32899	2.32919	2.32940	2.32960	2.32980	2.33001	2.33021
214	2.33041	2.33062	2.33082	2.33102	2.33122	2.33143	2.33163	2.33183	2.33203	2.33224
215	2.33244	2.33264	2.33284	2.33304	2.33325	2.33345	2.33365	2.33386	2.33406	2.33425
216	2.33445	2.33465	2.33485	2.33506	2.33526	2.33546	2.33566	2.33586	2.33606	2.33626
217	2.33646	2.33666	2.33686	2.33706	2.33726	2.33746	2.33766	2.33786	2.33806	2.33826
218	2.33846	2.33866	2.33885	2.33905	2.33925	2.33945	2.33965	2.33985	2.34005	2.34025
219	2.34044	2.34064	2.34084	2.34104	2.34124	2.34143	2.34163	2.34183	2.34203	2.34222

No.	0	1	2	3	4	5	6	7	8	9
220	2.34242	2.34262	2.34282	2.34301	2.34321	2.34341	2.34360	2.34380	2.34400	2.34420
221	34439	34459	34478	34498	34518	34537	34557	34577	34596	34616
222	34635	34655	34674	34694	34713	34733	34752	34772	34791	34811
223	34830	34850	34869	34889	34908	34928	34947	34967	34986	35005
224	35025	35044	35064	35083	35102	35122	35141	35160	35180	35199
225	35218	35237	35257	35276	35295	35315	35334	35353	35372	35392
226	35411	35430	35449	35468	35488	35507	35526	35545	35564	35583
227	35603	35622	35641	35660	35679	35698	35717	35736	35755	35774
228	35793	35812	35832	35851	35870	35889	35908	35927	35946	35965
229	35983	36002	36021	36040	36059	36078	36097	36116	36135	36154
230	2.36173	2.36192	2.36210	2.36229	2.36248	2.36267	2.36286	2.36305	2.36324	2.36342
231	36361	36380	36399	36418	36436	36455	36474	36493	36511	36530
232	36549	36567	36586	36605	36624	36642	36661	36680	36698	36717
233	36736	36754	36773	36791	36810	36829	36847	36866	36884	36903
234	36922	36940	36959	36977	36996	37014	37033	37051	37070	37088
235	37107	37125	37144	37162	37181	37199	37217	37236	37254	37273
236	37291	37310	37328	37346	37365	37383	37401	37420	37438	37456
237	37475	37493	37511	37530	37548	37566	37585	37603	37621	37639
238	37658	37676	37694	37712	37731	37749	37767	37785	37803	37822
239	37840	37858	37876	37894	37912	37930	37949	37967	37985	38003
240	2.38021	2.38039	2.38057	2.38075	2.38093	2.38111	2.38130	2.38148	2.38166	2.38184
241	38202	38220	38238	38256	38274	38292	38310	38328	38346	38364
242	38381	38399	38417	38435	38453	38471	38489	38507	38525	38543
243	38561	38578	38596	38614	38632	38650	38668	38685	38703	38721
244	38739	38757	38775	38792	38810	38828	38846	38863	38881	38899
245	38917	38934	38952	38970	38987	39005	39023	39040	39058	39076
246	39093	39111	39129	39146	39164	39182	39199	39217	39234	39252
247	39270	39287	39305	39322	39340	39357	39375	39393	39410	39428
248	39445	39463	39480	39500	39515	39533	39550	39568	39585	39602
249	39620	39637	39655	39672	39690	39707	39724	39742	39759	39777
250	2.39794	2.39811	2.39829	2.39846	2.39863	2.39881	2.39898	2.39915	2.39933	2.39950
251	39967	39985	40002	40019	40036	40054	40071	40088	40105	40123
252	40140	40157	40174	40192	40209	40226	40243	40260	40278	40295
253	40312	40329	40346	40363	40381	40398	40415	40432	40449	40466
254	40483	40500	40517	40535	40552	40569	40586	40603	40620	40637
255	40654	40671	40688	40705	40722	40739	40756	40773	40790	40807
256	40824	40841	40858	40875	40892	40909	40926	40943	40959	40976
257	40993	41010	41027	41044	41061	41078	41095	41111	41128	41145
258	41162	41179	41196	41212	41229	41246	41263	41280	41296	41313
259	41330	41347	41363	41380	41397	41414	41430	41447	41464	41481
260	2.41497	2.41514	2.41531	2.41547	2.41564	2.41581	2.41597	2.41614	2.41631	2.41647
261	41664	41681	41697	41714	41731	41747	41764	41780	41797	41813
262	41830	41847	41863	41880	41896	41913	41929	41946	41962	41979
263	41996	42012	42029	42045	42062	42078	42094	42111	42127	42144
264	42160	42177	42193	42210	42226	42243	42259	42275	42292	42308
265	42325	42341	42357	42374	42390	42406	42423	42439	42455	42472
266	42488	42504	42521	42537	42553	42570	42586	42602	42619	42635
267	42651	42667	42684	42700	42716	42732	42749	42765	42781	42797
268	42813	42830	42846	42862	42878	42894	42911	42927	42943	42959
269	42975	42991	43007	43024	43040	43056	43072	43088	43104	43120
270	2.43136	2.43152	2.43168	2.43185	2.43201	2.43217	2.43233	2.43249	2.43265	2.43281
271	43297	43313	43329	43345	43361	43377	43393	43409	43425	43441
272	43457	43473	43489	43505	43521	43537	43553	43568	43584	43600
273	43616	43632	43648	43664	43680	43696	43712	43727	43743	43759
274	43775	43791	43807	43823	43838	43854	43870	43886	43902	43917
275	43933	43949	43965	43981	43996	44012	44028	44044	44059	44075
276	44091	44107	44122	44138	44154	44169	44185	44201	44217	44232
277	44248	44264	44279	44295	44311	44326	44342	44358	44373	44389
278	44404	44420	44436	44451	44467	44482	44498	44514	44529	44545
279	44560	44576	44592	44607	44623	44638	44654	44669	44685	44700

A Table of Logarithms from 1 to 10,000.

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No.	0	1	2	3	4	5	6	7	8	9
280	2.44716	2.44731	2.44747	2.44762	2.44778	2.44793	2.44809	2.44824	2.44840	2.44855
281	44871	44886	44901	44917	44932	44948	44963	44979	44994	45009
282	45025	45040	45056	45071	45086	45102	45117	45132	45148	45163
283	45179	45194	45209	45225	45240	45255	45271	45286	45301	45316
284	45332	45347	45362	45378	45393	45408	45423	45439	45454	45469
285	45484	45500	45515	45530	45545	45561	45576	45591	45606	45621
286	45637	45652	45667	45682	45697	45712	45728	45743	45758	45773
287	45788	45803	45818	45834	45849	45864	45879	45894	45909	45924
288	45939	45954	45969	45984	45999	46015	46030	46045	46060	46075
289	46090	46105	46120	46135	46150	46165	46180	46195	46210	46225
290	2.46240	2.46255	2.46270	2.46285	2.46300	2.46315	2.46329	2.46344	2.46359	2.46374
291	46389	46404	46419	46434	46449	46464	46479	46494	46508	46523
292	46538	46553	46568	46583	46598	46612	46627	46642	46657	46672
293	46687	46702	46716	46731	46746	46761	46776	46790	46805	46820
294	46835	46849	46864	46879	46894	46908	46923	46938	46953	46967
295	46982	46997	47012	47026	47041	47056	47070	47085	47100	47114
296	47129	47144	47158	47173	47188	47202	47217	47232	47246	47261
297	47276	47290	47305	47319	47334	47349	47363	47378	47392	47407
298	47422	47436	47451	47465	47480	47494	47509	47523	47538	47553
299	47567	47582	47596	47611	47625	47640	47654	47669	47683	47698
300	2.47712	2.47727	2.47741	2.47755	2.47770	2.47784	2.47799	2.47813	2.47828	2.47842
301	47857	47871	47885	47900	47914	47929	47943	47957	47972	47986
302	48001	48015	48029	48044	48058	48072	48087	48101	48116	48130
303	48144	48159	48173	48187	48202	48216	48230	48244	48259	48273
304	48287	48302	48316	48330	48344	48359	48373	48387	48401	48416
305	48430	48444	48458	48473	48487	48501	48515	48529	48544	48558
306	48572	48586	48600	48615	48629	48643	48657	48671	48685	48700
307	48714	48728	48742	48756	48770	48784	48799	48813	48827	48841
308	48855	48869	48883	48897	48911	48925	48940	48954	48968	48982
309	48996	49010	49024	49038	49052	49066	49080	49094	49108	49122
310	2.49136	2.49150	2.49164	2.49178	2.49192	2.49206	2.49220	2.49234	2.49248	2.49262
311	49276	49290	49304	49318	49332	49346	49360	49374	49388	49402
312	49415	49429	49443	49457	49471	49485	49499	49513	49527	49541
313	49554	49568	49582	49596	49610	49624	49638	49651	49665	49679
314	49693	49707	49721	49734	49748	49762	49776	49790	49803	49817
315	49831	49845	49859	49872	49886	49900	49914	49927	49941	49955
316	49969	49982	49996	50010	50024	50037	50051	50065	50078	50093
317	50106	50120	50133	50147	50161	50174	50188	50202	50215	50229
318	50243	50256	50270	50284	50297	50311	50325	50338	50352	50365
319	50379	50393	50406	50420	50433	50447	50461	50474	50488	50501
320	2.50515	2.50529	2.50542	2.50556	2.50569	2.50583	2.50596	2.50610	2.50623	2.50637
321	50650	50664	50677	50691	50705	50718	50732	50745	50759	50772
322	50786	50799	50812	50826	50839	50853	50866	50880	50893	50907
323	50920	50934	50947	50961	50974	50987	51001	51014	51028	51041
324	51054	51068	51081	51095	51108	51121	51135	51148	51162	51175
325	51188	51202	51215	51228	51242	51255	51268	51282	51295	51308
326	51322	51335	51348	51362	51375	51388	51402	51415	51428	51441
327	51455	51468	51481	51495	51508	51521	51534	51548	51561	51574
328	51587	51601	51614	51627	51640	51653	51667	51680	51693	51706
329	51720	51733	51746	51759	51772	51785	51799	51812	51825	51838
330	2.51851	2.51864	2.51878	2.51891	2.51904	2.51917	2.51930	2.51943	2.51956	2.51970
331	51983	51996	52009	52022	52035	52048	52061	52074	52088	52101
332	52114	52127	52140	52153	52166	52179	52192	52205	52218	52231
333	52244	52257	52270	52283	52297	52310	52323	52336	52349	52362
334	52375	52388	52401	52414	52427	52440	52453	52466	52478	52491
335	52504	52517	52530	52543	52556	52569	52582	52595	52608	52621
336	52634	52647	52660	52673	52686	52698	52711	52724	52737	52750
337	52763	52776	52789	52802	52814	52827	52840	52853	52866	52879
338	52892	52904	52917	52930	52943	52956	52969	52981	52994	53007
339	53020	53033	53046	53058	53071	53084	53097	53109	53122	53135

No.	0	1	2	3	4	5	6	7	8	9
340	2.53148	2.53161	2.53173	2.53186	2.53199	2.53212	2.53224	2.53237	2.53250	2.53263
341	53275	53288	53301	53314	53326	53339	53352	53364	53377	53390
342	53403	53415	53428	53441	53453	53466	53479	53491	53504	53517
343	53529	53542	53555	53567	53580	53593	53605	53618	53631	53643
344	53656	53668	53681	53694	53706	53719	53731	53744	53757	53769
345	53782	53794	53807	53820	53832	53845	53857	53870	53882	53895
346	53908	53920	53933	53945	53958	53970	53983	53995	54008	54020
347	54033	54045	54058	54070	54083	54095	54108	54120	54133	54145
348	54158	54170	54183	54195	54208	54220	54233	54245	54258	54270
349	54282	54295	54307	54320	54332	54345	54357	54370	54382	54394
350	2.54407	2.54419	2.54432	2.54444	2.54456	2.54469	2.54481	2.54494	2.54506	2.54518
351	54531	54543	54555	54568	54580	54592	54605	54617	54630	54642
352	54654	54667	54679	54691	54704	54716	54728	54740	54753	54765
353	54777	54790	54802	54814	54827	54839	54851	54863	54876	54888
354	54900	54913	54925	54937	54949	54962	54974	54986	54998	55011
355	55023	55035	55047	55059	55072	55084	55096	55108	55121	55133
356	55145	55157	55169	55182	55194	55206	55218	55230	55242	55255
357	55267	55279	55291	55303	55315	55328	55340	55352	55364	55376
358	55388	55400	55413	55425	55437	55449	55461	55473	55485	55497
359	55509	55521	55534	55546	55558	55570	55582	55594	55606	55618
360	2.55630	2.55642	2.55654	2.55666	2.55678	2.55690	2.55703	2.55715	2.55727	2.55739
361	55751	55763	55775	55787	55799	55811	55823	55835	55847	55859
362	55871	55883	55895	55907	55919	55931	55943	55955	55967	55979
363	55991	56003	56015	56026	56039	56050	56062	56074	56086	56098
364	56110	56122	56134	56146	56158	56170	56182	56193	56205	56217
365	56229	56241	56253	56265	56277	56289	56301	56312	56324	56336
366	56348	56360	56372	56384	56395	56407	56419	56431	56443	56455
367	56467	56478	56490	56502	56514	56526	56537	56549	56561	56573
368	56585	56597	56608	56620	56632	56644	56655	56667	56679	56691
369	56703	56714	56726	56738	56750	56761	56773	56785	56797	56808
370	2.56820	2.56832	2.56844	2.56855	2.56867	2.56879	2.56890	2.56902	2.56914	2.56926
371	56937	56949	56961	56972	56984	56996	57008	57019	57031	57043
372	57054	57066	57078	57089	57101	57113	57123	57136	57148	57159
373	57171	57182	57194	57206	57217	57229	57241	57252	57264	57275
374	57287	57299	57310	57322	57334	57345	57357	57368	57380	57391
375	57403	57415	57426	57438	57449	57461	57473	57484	57496	57507
376	57519	57530	57542	57553	57565	57576	57588	57600	57611	57623
377	57634	57646	57657	57669	57680	57692	57703	57715	57726	57738
378	57749	57761	57772	57784	57795	57807	57818	57829	57841	57852
379	57864	57875	57887	57898	57910	57921	57933	57944	57955	57967
380	2.57978	2.57990	2.58001	2.58013	2.58024	2.58035	2.58047	2.58058	2.58070	2.58081
381	58092	58104	58115	58127	58138	58149	58161	58172	58184	58195
382	58206	58218	58229	58240	58252	58263	58274	58286	58297	58308
383	58320	58331	58342	58354	58365	58376	58388	58399	58410	58422
384	58433	58444	58456	58467	58478	58490	58501	58512	58523	58535
385	58546	58557	58569	58580	58591	58602	58614	58625	58636	58647
386	58659	58670	58681	58692	58704	58715	58726	58737	58749	58760
387	58771	58782	58793	58805	58816	58827	58838	58850	58861	58872
388	58883	58894	58905	58917	58928	58939	58950	58961	58973	58984
389	58995	59006	59017	59028	59040	59051	59062	59073	59084	59095
390	2.59106	2.59118	2.59129	2.59140	2.59151	2.59162	2.59173	2.59184	2.59195	2.59207
391	59218	59229	59240	59251	59262	59273	59284	59295	59306	59317
392	59329	59340	59351	59362	59373	59384	59395	59406	59417	59428
393	59439	59450	59461	59472	59483	59494	59505	59516	59528	59539
394	59550	59561	59572	59583	59594	59605	59616	59627	59638	59649
395	59660	59671	59682	59693	59704	59714	59726	59737	59748	59758
396	59769	59780	59791	59802	59813	59824	59835	59846	59857	59868
397	59879	59890	59901	59912	59923	59934	59945	59956	59966	59977
398	59988	59999	60010	60021	60032	60043	60054	60065	60075	60086
399	60097	60108	60119	60130	60140	60152	60162	60173	60184	60195



A Table of Logarithms from 1 to 10,000.

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No	0	1	2	3	4	5	6	7	8	9
400	2.60206	2.60217	2.60228	2.60239	2.60249	2.60260	2.60271	2.60282	2.60293	2.60304
401	60314	60325	60336	60347	60358	60368	60379	60390	60401	60412
402	60423	60433	60444	60455	60466	60477	60487	60498	60509	60520
403	60530	60541	60552	60563	60574	60584	60595	60606	60617	60627
404	60638	60649	60660	60670	60681	60692	60703	60713	60724	60735
405	60746	60756	60767	60778	60788	60799	60810	60820	60831	60842
406	60853	60863	60874	60885	60895	60906	60917	60927	60938	60949
407	60959	60970	60981	60991	61002	61013	61023	61034	61045	61055
408	61066	61077	61087	61098	61109	61119	61130	61140	61151	61162
409	61172	61183	61194	61204	61215	61225	61236	61247	61257	61268
410	2.61278	2.61289	2.61300	2.61310	2.61321	2.61331	2.61342	2.61352	2.61363	2.61374
411	61384	61395	61405	61416	61426	61437	61447	61458	61469	61479
412	61490	61500	61511	61521	61532	61542	61553	61563	61574	61584
413	61595	61605	61616	61626	61637	61647	61658	61668	61679	61689
414	61700	61710	61721	61731	61742	61752	61763	61773	61784	61794
415	61805	61815	61826	61836	61847	61857	61867	61878	61888	61899
416	61909	61920	61930	61941	61951	61961	61972	61982	61993	62003
417	62014	62024	62034	62045	62055	62066	62076	62086	62097	62107
418	62118	62128	62138	62149	62159	62169	62180	62190	62201	62211
419	62221	62232	62242	62252	62263	62273	62283	62294	62304	62315
420	2.62325	2.62335	2.62346	2.62356	2.62366	2.62377	2.62387	2.62397	2.62408	2.62418
421	62428	62438	62449	62459	62469	62480	62490	62500	62511	62521
422	62531	62541	62552	62562	62572	62583	62593	62603	62613	62624
423	62634	62644	62655	62665	62675	62685	62696	62707	62716	62726
424	62737	62747	62757	62767	62777	62788	62798	62808	62818	62829
425	62839	62849	62859	62869	62880	62890	62900	62910	62921	62931
426	62941	62951	62961	62971	62982	62992	63002	63012	63022	63033
427	63043	63053	63063	63073	63083	63094	63104	63114	63124	63134
428	63144	63154	63165	63175	63185	63195	63205	63215	63225	63236
429	63246	63256	63266	63276	63286	63296	63306	63316	63327	63337
430	2.63347	2.63357	2.63367	2.63377	2.63387	2.63397	2.63407	2.63417	2.63428	2.63438
431	63448	63458	63468	63478	63488	63498	63508	63518	63528	63537
432	63548	63558	63568	63578	63589	63599	63609	63619	63629	63639
433	63649	63659	63669	63679	63689	63699	63709	63719	63729	63739
434	63749	63759	63769	63779	63789	63799	63809	63819	63829	63839
435	63849	63859	63869	63879	63889	63899	63909	63919	63929	63939
436	63949	63959	63969	63978	63988	63998	64008	64018	64028	64038
437	64048	64058	64068	64078	64088	64098	64108	64118	64128	64137
438	64147	64157	64167	64177	64187	64197	64207	64217	64227	64237
439	64246	64256	64266	64276	64286	64296	64306	64316	64325	64335
440	2.64345	2.64355	2.64365	2.64375	2.64385	2.64395	2.64404	2.64414	2.64424	2.64434
441	64444	64454	64463	64473	64483	64493	64503	64513	64522	64532
442	64542	64552	64562	64572	64581	64591	64601	64611	64621	64631
443	64640	64650	64660	64670	64680	64690	64699	64709	64719	64728
444	64738	64748	64758	64768	64777	64787	64797	64807	64816	64826
445	64836	64846	64855	64865	64875	64885	64894	64904	64914	64924
446	64933	64943	64953	64963	64972	64982	64992	65002	65011	65021
447	65031	65040	65050	65060	65070	65079	65089	65099	65108	65118
448	65128	65137	65147	65157	65167	65176	65186	65196	65205	65215
449	65225	65234	65244	65254	65263	65273	65283	65292	65302	65312
450	2.65321	2.65331	2.65340	2.65350	2.65360	2.65369	2.65379	2.65389	2.65398	2.65408
451	65418	65427	65437	65446	65456	65466	65475	65485	65495	65504
452	65514	65523	65533	65543	65552	65562	65571	65581	65591	65600
453	65610	65619	65629	65639	65648	65658	65667	65677	65686	65696
454	65706	65715	65725	65734	65744	65753	65763	65772	65782	65792
455	65801	65811	65820	65830	65839	65849	65858	65868	65877	65887
456	65896	65906	65915	65925	65935	65944	65954	65963	65973	65982
457	65992	66001	66011	66020	66030	66039	66049	66058	66068	66077
458	66086	66096	66105	66115	66124	66134	66143	66153	66162	66172
459	66181	66191	66200	66210	66219	66228	66238	66247	66257	66266



No.	0	1	2	3	4	5	6	7	8	9
460	2.66276	2.66285	2.66295	2.66304	2.66313	2.66323	2.66332	2.66342	2.66351	2.66361
461	66370	66379	66389	66398	66408	66417	66427	66436	66445	66455
462	66464	66474	66483	66492	66502	66511	66521	66530	66539	66549
463	66558	66567	66577	66586	66596	66605	66614	66624	66633	66642
464	66652	66661	66670	66680	66689	66699	66708	66717	66727	66736
465	66745	66755	66764	66773	66783	66792	66801	66811	66820	66829
466	66839	66848	66857	66866	66876	66885	66894	66904	66913	66922
467	66932	66941	66950	66960	66969	66978	66987	66997	67006	67015
468	67025	67034	67043	67052	67062	67071	67080	67089	67099	67108
469	67117	67126	67136	67145	67154	67164	67173	67182	67191	67200
470	2.67210	2.67219	2.67228	2.67237	2.67247	2.67256	2.67265	2.67274	2.67284	2.67293
471	67302	67311	67320	67330	67339	67348	67357	67367	67376	67385
472	67394	67403	67413	67422	67431	67440	67449	67459	67468	67477
473	67486	67495	67504	67514	67523	67532	67541	67550	67559	67569
474	67578	67587	67596	67605	67614	67624	67633	67642	67651	67660
475	67669	67678	67688	67697	67706	67715	67724	67733	67742	67752
476	67761	67770	67779	67788	67797	67806	67815	67824	67834	67843
477	67852	67861	67870	67879	67888	67897	67906	67915	67925	67934
478	67943	67952	67961	67970	67979	67988	67997	68006	68015	68024
479	68033	68043	68052	68061	68070	68079	68088	68097	68106	68115
480	2.68124	2.68133	2.68142	2.68151	2.68160	2.68169	2.68178	2.68187	2.68196	2.68205
481	68214	68223	68233	68242	68251	68260	68269	68278	68287	68296
482	68305	68314	68323	68332	68341	68350	68359	68368	68377	68386
483	68395	68404	68413	68422	68431	68440	68449	68458	68467	68476
484	68484	68493	68502	68511	68520	68529	68538	68547	68556	68565
485	68574	68583	68592	68601	68610	68619	68628	68637	68646	68655
486	68664	68673	68681	68690	68699	68708	68717	68726	68735	68744
487	68753	68762	68771	68780	68788	68797	68806	68815	68824	68833
488	68842	68851	68860	68869	68878	68886	68895	68904	68913	68922
489	68931	68940	68948	68957	68966	68975	68984	68993	69002	69011
490	2.69020	2.69028	2.69037	2.69046	2.69055	2.69064	2.69073	2.69082	2.69090	2.69099
491	69108	69117	69126	69135	69143	69152	69161	69170	69179	69188
492	69196	69205	69214	69223	69232	69241	69249	69258	69267	69276
493	69285	69293	69302	69311	69320	69329	69337	69346	69355	69364
494	69373	69381	69390	69399	69408	69417	69425	69434	69443	69452
495	69460	69469	69478	69487	69496	69504	69513	69522	69531	69539
496	69548	69557	69566	69574	69583	69592	69601	69609	69618	69627
497	69636	69644	69653	69662	69671	69679	69688	69697	69705	69714
498	69723	69732	69740	69749	69758	69766	69775	69784	69793	69801
499	69810	69819	69827	69836	69845	69853	69862	69871	69880	69888
500	2.69897	2.69900	2.69914	2.69923	2.69932	2.69940	2.69949	2.69958	2.69966	2.69975
501	69984	69992	70001	70010	70018	70027	70036	70044	70053	70062
502	70070	70079	70088	70096	70105	70114	70122	70131	70139	70148
503	70157	70165	70174	70183	70191	70200	70209	70217	70226	70234
504	70243	70252	70260	70269	70277	70286	70295	70303	70312	70320
505	70329	70338	70346	70355	70363	70372	70381	70389	70398	70406
506	70415	70424	70432	70441	70449	70458	70466	70475	70484	70492
507	70501	70509	70518	70526	70535	70544	70552	70561	70569	70578
508	70586	70595	70603	70612	70620	70629	70638	70646	70655	70663
509	70672	70680	70689	70697	70706	70714	70723	70731	70740	70748
510	2.70757	2.70765	2.70774	2.70783	2.70791	2.70800	2.70808	2.70817	2.70825	2.70834
511	70842	70851	70859	70868	70876	70885	70893	70901	70910	70918
512	70927	70935	70944	70952	70961	70969	70978	70986	70995	71003
513	71012	71020	71029	71037	71045	71054	71062	71071	71079	71088
514	71096	71105	71113	71122	71130	71138	71147	71155	71164	71172
515	71181	71189	71198	71206	71214	71223	71231	71240	71248	71256
516	71265	71273	71282	71290	71299	71307	71315	71324	71332	71341
517	71349	71357	71366	71374	71383	71391	71399	71408	71416	71425
518	71433	71441	71450	71458	71466	71475	71483	71492	71500	71508
519	71517	71525	71533	71542	71550	71559	71567	71575	71584	71592

# A Table of Logarithms from 1 to 10,000.

31

No.	0	1	2	3	4	5	6	7	8	9
520	2.71600	2.71609	2.71617	2.71625	2.71634	2.71642	2.71650	2.71659	2.71667	2.71675
521	2.71684	2.71692	2.71700	2.71709	2.71717	2.71725	2.71734	2.71742	2.71750	2.71759
522	2.71767	2.71775	2.71784	2.71792	2.71800	2.71809	2.71817	2.71825	2.71834	2.71842
523	2.71850	2.71858	2.71867	2.71875	2.71883	2.71892	2.71900	2.71908	2.71916	2.71925
524	2.71933	2.71941	2.71950	2.71958	2.71966	2.71974	2.71983	2.71991	2.71999	2.72008
525	2.72016	2.72024	2.72032	2.72041	2.72049	2.72057	2.72065	2.72074	2.72082	2.72090
526	2.72099	2.72107	2.72115	2.72123	2.72132	2.72140	2.72148	2.72156	2.72165	2.72173
527	2.72181	2.72189	2.72197	2.72206	2.72214	2.72222	2.72230	2.72239	2.72247	2.72255
528	2.72263	2.72272	2.72280	2.72288	2.72296	2.72304	2.72312	2.72321	2.72329	2.72337
529	2.72346	2.72354	2.72362	2.72370	2.72378	2.72387	2.72395	2.72403	2.72411	2.72419
530	2.72428	2.72436	2.72444	2.72452	2.72460	2.72468	2.72477	2.72485	2.72493	2.72501
531	2.72509	2.72518	2.72526	2.72534	2.72542	2.72550	2.72558	2.72567	2.72575	2.72583
532	2.72591	2.72599	2.72607	2.72616	2.72624	2.72632	2.72640	2.72648	2.72656	2.72665
533	2.72673	2.72681	2.72689	2.72697	2.72705	2.72713	2.72722	2.72730	2.72738	2.72746
534	2.72754	2.72762	2.72770	2.72778	2.72787	2.72795	2.72803	2.72811	2.72819	2.72827
535	2.72835	2.72843	2.72852	2.72860	2.72868	2.72876	2.72884	2.72892	2.72900	2.72908
536	2.72916	2.72925	2.72933	2.72941	2.72949	2.72957	2.72965	2.72973	2.72981	2.72989
537	2.72997	2.73005	2.73014	2.73022	2.73030	2.73038	2.73046	2.73054	2.73062	2.73070
538	2.73078	2.73086	2.73094	2.73102	2.73110	2.73119	2.73127	2.73135	2.73143	2.73151
539	2.73159	2.73167	2.73175	2.73183	2.73191	2.73199	2.73207	2.73215	2.73223	2.73231
540	2.73239	2.73247	2.73255	2.73263	2.73271	2.73280	2.73288	2.73296	2.73304	2.73312
541	2.73320	2.73328	2.73336	2.73344	2.73352	2.73360	2.73368	2.73376	2.73384	2.73392
542	2.73400	2.73408	2.73416	2.73424	2.73432	2.73440	2.73448	2.73456	2.73464	2.73472
543	2.73480	2.73488	2.73496	2.73504	2.73512	2.73520	2.73528	2.73536	2.73544	2.73552
544	2.73560	2.73568	2.73576	2.73584	2.73592	2.73600	2.73608	2.73616	2.73624	2.73632
545	2.73640	2.73648	2.73656	2.73663	2.73671	2.73679	2.73687	2.73695	2.73703	2.73711
546	2.73720	2.73727	2.73735	2.73743	2.73751	2.73759	2.73767	2.73775	2.73783	2.73791
547	2.73799	2.73807	2.73815	2.73822	2.73830	2.73838	2.73846	2.73854	2.73862	2.73870
548	2.73878	2.73886	2.73894	2.73902	2.73910	2.73918	2.73926	2.73933	2.73941	2.73949
549	2.73957	2.73965	2.73973	2.73981	2.73989	2.73997	2.74005	2.74013	2.74020	2.74028
550	2.74036	2.74044	2.74052	2.74060	2.74068	2.74076	2.74084	2.74091	2.74099	2.74107
551	2.74115	2.74123	2.74131	2.74139	2.74147	2.74155	2.74162	2.74170	2.74178	2.74186
552	2.74194	2.74202	2.74210	2.74217	2.74225	2.74233	2.74241	2.74249	2.74257	2.74265
553	2.74272	2.74280	2.74288	2.74296	2.74304	2.74312	2.74320	2.74327	2.74335	2.74343
554	2.74351	2.74359	2.74367	2.74374	2.74382	2.74390	2.74398	2.74406	2.74414	2.74421
555	2.74429	2.74437	2.74445	2.74453	2.74461	2.74468	2.74476	2.74484	2.74492	2.74500
556	2.74507	2.74515	2.74523	2.74531	2.74539	2.74546	2.74554	2.74562	2.74570	2.74578
557	2.74585	2.74593	2.74601	2.74609	2.74617	2.74624	2.74632	2.74640	2.74648	2.74656
558	2.74663	2.74671	2.74679	2.74687	2.74694	2.74702	2.74710	2.74718	2.74726	2.74733
559	2.74741	2.74749	2.74757	2.74764	2.74772	2.74780	2.74788	2.74795	2.74803	2.74811
560	2.74819	2.74827	2.74834	2.74842	2.74850	2.74858	2.74865	2.74873	2.74881	2.74888
561	2.74896	2.74904	2.74912	2.74919	2.74927	2.74935	2.74943	2.74950	2.74958	2.74966
562	2.74974	2.74981	2.74989	2.74997	2.75004	2.75012	2.75020	2.75028	2.75035	2.75043
563	2.75051	2.75059	2.75066	2.75074	2.75082	2.75089	2.75097	2.75105	2.75112	2.75120
564	2.75128	2.75136	2.75143	2.75151	2.75159	2.75166	2.75174	2.75182	2.75189	2.75197
565	2.75205	2.75212	2.75220	2.75228	2.75236	2.75243	2.75251	2.75259	2.75266	2.75274
566	2.75282	2.75289	2.75297	2.75305	2.75312	2.75320	2.75328	2.75335	2.75343	2.75351
567	2.75358	2.75366	2.75374	2.75381	2.75389	2.75397	2.75404	2.75412	2.75419	2.75427
568	2.75435	2.75442	2.75450	2.75458	2.75465	2.75473	2.75481	2.75488	2.75496	2.75503
569	2.75511	2.75519	2.75526	2.75534	2.75542	2.75549	2.75557	2.75565	2.75572	2.75580
570	2.75587	2.75595	2.75603	2.75610	2.75618	2.75626	2.75633	2.75641	2.75648	2.75656
571	2.75664	2.75671	2.75679	2.75686	2.75694	2.75702	2.75709	2.75717	2.75724	2.75732
572	2.75740	2.75747	2.75755	2.75762	2.75770	2.75777	2.75785	2.75793	2.75800	2.75808
573	2.75815	2.75823	2.75831	2.75838	2.75846	2.75853	2.75861	2.75868	2.75876	2.75884
574	2.75891	2.75899	2.75906	2.75914	2.75921	2.75929	2.75937	2.75944	2.75952	2.75959
575	2.75967	2.75974	2.75982	2.75989	2.75997	2.76005	2.76012	2.76020	2.76027	2.76035
576	2.76042	2.76050	2.76057	2.76065	2.76072	2.76080	2.76087	2.76095	2.76102	2.76110
577	2.76118	2.76125	2.76133	2.76140	2.76148	2.76155	2.76163	2.76170	2.76178	2.76185
578	2.76193	2.76200	2.76208	2.76215	2.76223	2.76230	2.76238	2.76245	2.76253	2.76260
579	2.76268	2.76275	2.76283	2.76290	2.76298	2.76305	2.76313	2.76320	2.76328	2.76335

No.	0	1	2	3	4	5	6	7	8	9
580	2.76343	2.76355	2.76358	2.76365	2.76373	2.76380	2.76388	2.76395	2.76403	2.76410
581	76418	76425	76433	76440	76447	76455	76462	76470	76477	76485
582	76492	76500	76507	76515	76522	76530	76537	76544	76552	76559
583	76567	76574	76582	76589	76597	76604	76611	76619	76626	76634
584	76641	76649	76656	76664	76671	76678	76686	76693	76701	76708
585	76716	76723	7673	76738	76745	76753	76760	76767	76775	76782
586	76790	76797	7680	76812	76819	76827	76834	76842	76849	76856
587	76864	76871	76879	76886	76893	76901	76908	76916	76923	76930
588	76938	76945	76952	76960	76967	76975	76982	76989	76997	77004
589	77011	77019	77026	77034	77041	77048	77056	77063	77070	77078
590	2.77085	2.77093	2.77100	2.77107	2.77115	2.77122	2.77129	2.77137	2.77144	2.77151
591	77159	77166	77173	77181	77188	77195	77203	77210	77217	77225
592	77232	77239	77247	77254	77261	77269	77276	77283	77291	77298
593	77305	77313	77320	77327	77335	77342	77349	77357	77364	77371
594	77379	77386	77393	77401	77408	77415	77422	77430	77437	77444
595	77452	77459	77466	77474	77481	77488	77495	77503	77510	77517
596	77525	77532	77539	77546	77554	77561	77568	77576	77583	77590
597	77597	77604	77612	77619	77626	77634	77641	77648	77656	77663
598	77670	77677	77685	77692	77699	77706	77714	77721	77728	77735
599	77743	77750	77757	77764	77772	77779	77786	77793	77801	77808
600	2.77815	2.77822	2.77830	2.77837	2.77844	2.77851	2.77858	2.77866	2.77873	2.77880
601	77887	77895	77902	77909	77916	77924	77931	77938	77945	77952
602	77960	77967	77974	77981	77988	77996	78003	78010	78017	78024
603	78032	78039	78046	78053	78060	78068	78075	78082	78089	78096
604	78104	78111	78118	78125	78132	78140	78147	78154	78161	78168
605	78175	78183	78190	78197	78204	78211	78219	78226	78233	78240
606	78247	78254	78262	78269	78276	78283	78290	78297	78305	78312
607	78319	78326	78333	78340	78347	78355	78362	78369	78376	78383
608	78390	78397	78405	78412	78419	78426	78433	78440	78447	78455
609	78462	78469	78476	78483	78490	78497	78504	78512	78519	78526
610	2.78533	2.78540	2.78547	2.78554	2.78561	2.78569	2.78576	2.78583	2.78590	2.78597
611	78604	78611	78618	78625	78632	78640	78647	78654	78661	78668
612	78675	78682	78689	78696	78703	78711	78718	78725	78732	78739
613	78746	78753	78760	78767	78774	78781	78788	78796	78803	78810
614	78817	78824	78831	78838	78845	78852	78859	78866	78873	78880
615	78887	78895	78902	78909	78915	78923	78930	78937	78944	78951
616	78958	78965	78972	78979	78986	78993	79000	79007	79014	79021
617	79028	79036	79043	79050	79057	79064	79071	79078	79085	79092
618	79099	79106	79113	79120	79127	79134	79141	79148	79155	79162
619	79169	79176	79183	79190	79197	79204	79211	79218	79225	79232
620	2.79239	2.79246	2.79253	2.79260	2.79267	2.79274	2.79281	2.79288	2.79295	2.79302
621	79309	79316	79323	79330	79337	79344	79351	79358	79365	79372
622	79379	79386	79393	79400	79407	79414	79421	79428	79435	79442
623	79449	79456	79463	79470	79477	79484	79491	79498	79504	79511
624	79518	79525	79532	79539	79546	79553	79560	79567	79574	79581
625	79588	79595	79602	79609	79616	79623	79630	79637	79644	79650
626	79657	79664	79671	79678	79685	79692	79699	79706	79713	79720
627	79727	79734	79741	79747	79754	79761	79768	79775	79782	79789
628	79796	79803	79810	79817	79824	79830	79837	79844	79851	79858
629	79865	79872	79879	79886	79893	79900	79906	79913	79920	79927
630	2.79934	2.79941	2.79948	2.79955	2.79962	2.79968	2.79975	2.79982	2.79989	2.79996
631	80003	80010	80017	80024	80030	80037	80044	80051	80058	80065
632	80072	80079	80085	80092	80099	80106	80113	80120	80127	80133
633	80140	80147	80154	80161	80168	80175	80181	80188	80195	80202
634	80209	80216	80223	80229	80236	80243	80250	80257	80263	80270
635	80277	80284	80291	80298	80305	80312	80318	80325	80332	80339
636	80346	80352	80359	80366	80373	80380	80387	80393	80400	80407
637	80414	80421	80428	80434	80441	80448	80455	80462	80468	80475
638	80482	80489	80496	80502	80509	80516	80523	80530	80536	80543
639	80550	80557	80564	80570	80577	80584	80591	80598	80604	80611

## A Table of Logarithms from 1 to 10,000.

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No.	0	1	2	3	4	5	6	7	8	9
640	2.80618	2.80625	2.80612	2.80638	2.80645	2.80652	2.80659	2.80665	2.80672	2.80679
641	2.80686	2.80693	2.80699	2.80706	2.80711	2.80720	2.80726	2.80733	2.80740	2.80747
642	2.80753	2.80760	2.80767	2.80774	2.80781	2.80787	2.80794	2.80801	2.80807	2.80814
643	2.80821	2.80828	2.80835	2.80841	2.80848	2.80855	2.80862	2.80868	2.80875	2.80882
644	2.80889	2.80895	2.80902	2.80909	2.80915	2.80922	2.80929	2.80936	2.80942	2.80949
645	2.80956	2.80963	2.80969	2.80976	2.80983	2.80990	2.80996	2.81003	2.81010	2.81016
646	2.81023	2.81030	2.81037	2.81043	2.81050	2.81057	2.81064	2.81070	2.81077	2.81084
647	2.81090	2.81097	2.81104	2.81111	2.81117	2.81124	2.81131	2.81137	2.81144	2.81151
648	2.81157	2.81164	2.81171	2.81178	2.81184	2.81191	2.81198	2.81204	2.81211	2.81218
649	2.81224	2.81231	2.81238	2.81244	2.81251	2.81258	2.81265	2.81271	2.81278	2.81285
650	2.81291	2.81298	2.81305	2.81311	2.81318	2.81325	2.81331	2.81338	2.81345	2.81351
651	2.81358	2.81365	2.81371	2.81378	2.81385	2.81391	2.81398	2.81405	2.81411	2.81418
652	2.81425	2.81431	2.81438	2.81445	2.81451	2.81458	2.81465	2.81471	2.81478	2.81485
653	2.81491	2.81498	2.81505	2.81511	2.81518	2.81525	2.81531	2.81538	2.81544	2.81551
654	2.81558	2.81564	2.81571	2.81578	2.81584	2.81591	2.81598	2.81604	2.81611	2.81617
655	2.81624	2.81631	2.81637	2.81644	2.81651	2.81657	2.81664	2.81670	2.81677	2.81684
656	2.81690	2.81697	2.81704	2.81710	2.81717	2.81723	2.81730	2.81737	2.81743	2.81750
657	2.81756	2.81763	2.81770	2.81776	2.81783	2.81790	2.81796	2.81803	2.81809	2.81816
658	2.81823	2.81829	2.81836	2.81842	2.81849	2.81856	2.81862	2.81869	2.81875	2.81882
659	2.81888	2.81895	2.81902	2.81908	2.81915	2.81921	2.81928	2.81935	2.81941	2.81948
660	2.81954	2.81961	2.81967	2.81974	2.81981	2.81987	2.81994	2.82000	2.82007	2.82014
661	2.82020	2.82027	2.82033	2.82040	2.82046	2.82053	2.82059	2.82066	2.82073	2.82079
662	2.82086	2.82092	2.82099	2.82105	2.82112	2.82119	2.82125	2.82132	2.82138	2.82145
663	2.82151	2.82158	2.82164	2.82171	2.82177	2.82184	2.82191	2.82197	2.82204	2.82210
664	2.82217	2.82223	2.82230	2.82236	2.82243	2.82249	2.82256	2.82263	2.82269	2.82276
665	2.82282	2.82289	2.82295	2.82302	2.82308	2.82315	2.82321	2.82328	2.82334	2.82341
666	2.82347	2.82354	2.82360	2.82367	2.82373	2.82380	2.82386	2.82393	2.82400	2.82406
667	2.82413	2.82419	2.82426	2.82432	2.82439	2.82445	2.82452	2.82458	2.82464	2.82471
668	2.82478	2.82484	2.82491	2.82497	2.82504	2.82510	2.82517	2.82523	2.82530	2.82536
669	2.82543	2.82549	2.82556	2.82562	2.82569	2.82575	2.82581	2.82588	2.82594	2.82601
670	2.82607	2.82614	2.82620	2.82627	2.82633	2.82640	2.82646	2.82653	2.82659	2.82665
671	2.82672	2.82679	2.82685	2.82692	2.82698	2.82705	2.82711	2.82717	2.82724	2.82730
672	2.82737	2.82743	2.82750	2.82756	2.82763	2.82769	2.82776	2.82782	2.82789	2.82795
673	2.82801	2.82808	2.82814	2.82821	2.82827	2.82834	2.82840	2.82847	2.82853	2.82859
674	2.82866	2.82872	2.82879	2.82885	2.82892	2.82898	2.82905	2.82911	2.82917	2.82924
675	2.82930	2.82937	2.82943	2.82950	2.82956	2.82962	2.82969	2.82975	2.82982	2.82988
676	2.82995	2.83001	2.83007	2.83014	2.83020	2.83027	2.83033	2.83040	2.83046	2.83053
677	2.83059	2.83065	2.83072	2.83078	2.83084	2.83091	2.83097	2.83104	2.83110	2.83117
678	2.83123	2.83129	2.83136	2.83142	2.83149	2.83155	2.83161	2.83168	2.83174	2.83181
679	2.83187	2.83193	2.83200	2.83206	2.83212	2.83219	2.83225	2.83232	2.83238	2.83244
680	2.83251	2.83257	2.83264	2.83270	2.83276	2.83283	2.83289	2.83296	2.83302	2.83308
681	2.83315	2.83321	2.83327	2.83334	2.83340	2.83347	2.83353	2.83359	2.83366	2.83372
682	2.83378	2.83385	2.83391	2.83397	2.83404	2.83410	2.83417	2.83423	2.83429	2.83436
683	2.83442	2.83448	2.83455	2.83461	2.83467	2.83474	2.83480	2.83487	2.83493	2.83499
684	2.83506	2.83512	2.83518	2.83525	2.83531	2.83537	2.83544	2.83550	2.83556	2.83563
685	2.83569	2.83575	2.83582	2.83588	2.83594	2.83601	2.83607	2.83613	2.83620	2.83626
686	2.83632	2.83639	2.83645	2.83651	2.83658	2.83664	2.83670	2.83677	2.83683	2.83689
687	2.83696	2.83702	2.83708	2.83715	2.83721	2.83727	2.83734	2.83740	2.83746	2.83752
688	2.83759	2.83765	2.83771	2.83778	2.83784	2.83790	2.83797	2.83803	2.83809	2.83816
689	2.83822	2.83828	2.83834	2.83841	2.83847	2.83853	2.83860	2.83866	2.83872	2.83879
690	2.83885	2.83891	2.83897	2.83904	2.83910	2.83916	2.83923	2.83929	2.83935	2.83941
691	2.83948	2.83954	2.83960	2.83967	2.83973	2.83979	2.83985	2.83992	2.83998	2.84004
692	2.84011	2.84017	2.84023	2.84029	2.84036	2.84042	2.84048	2.84054	2.84061	2.84067
693	2.84073	2.84080	2.84086	2.84092	2.84098	2.84105	2.84111	2.84117	2.84123	2.84130
694	2.84136	2.84142	2.84148	2.84155	2.84161	2.84167	2.84173	2.84180	2.84186	2.84192
695	2.84198	2.84205	2.84211	2.84217	2.84223	2.84230	2.84236	2.84242	2.84248	2.84255
696	2.84261	2.84267	2.84273	2.84280	2.84286	2.84292	2.84298	2.84305	2.84311	2.84317
697	2.84323	2.84329	2.84336	2.84342	2.84349	2.84354	2.84361	2.84367	2.84373	2.84379
698	2.84385	2.84392	2.84398	2.84404	2.84410	2.84417	2.84423	2.84429	2.84435	2.84441
699	2.84448	2.84454	2.84460	2.84466	2.84473	2.84479	2.84485	2.84491	2.84497	2.84504



No.	0	1	2	3	4	5	6	7	8	9
700	2.84510	2.84516	2.84522	2.84528	2.84535	2.84541	2.84547	2.84553	2.84559	2.84566
701	84572	84578	84584	84590	84596	84602	84609	84615	84621	84627
702	84634	84640	84646	84652	84658	84665	84671	84677	84683	84689
703	84695	84702	84708	84714	84720	84726	84733	84739	84745	84751
704	84757	84763	84770	84776	84782	84788	84794	84800	84807	84813
705	84819	84825	84831	84837	84843	84850	84856	84862	84868	84874
706	84880	84887	84893	84899	84905	84911	84917	84923	84930	84936
707	84942	84948	84954	84960	84966	84973	84979	84985	84991	84997
708	85003	85009	85016	85022	85028	85034	85040	85046	85052	85058
709	85065	85071	85077	85083	85089	85095	85101	85107	85114	85120
710	2.85126	2.85132	2.85138	2.85144	2.85150	2.85156	2.85162	2.85169	2.85175	2.85181
711	85187	85193	85199	85205	85211	85217	85224	85230	85236	85242
712	85248	85254	85260	85266	85272	85278	85285	85291	85297	85303
713	85309	85315	85321	85327	85333	85339	85345	85352	85358	85364
714	85370	85376	85382	85388	85394	85400	85406	85412	85418	85424
715	85431	85437	85443	85449	85455	85461	85467	85473	85479	85485
716	85491	85497	85503	85509	85516	85522	85528	85534	85540	85546
717	85552	85558	85564	85570	85576	85582	85588	85594	85600	85606
718	85612	85618	85624	85631	85637	85643	85649	85655	85661	85667
719	85673	85679	85685	85691	85697	85703	85709	85715	85721	85727
720	2.85733	2.85739	2.85745	2.85751	2.85757	2.85763	2.85769	2.85775	2.85781	2.85787
721	85793	85799	85806	85812	85818	85824	85830	85836	85842	85848
722	85854	85860	85866	85872	85878	85884	85890	85896	85902	85908
723	85914	85920	85926	85932	85938	85944	85950	85956	85962	85968
724	85974	85980	85986	85992	85998	86004	86010	86016	86022	86028
725	86034	86040	86046	86052	86058	86064	86070	86076	86082	86088
726	86094	86100	86106	86112	86118	86124	86130	86135	86141	86147
727	86153	86159	86165	86171	86177	86183	86189	86195	86201	86207
728	86213	86219	86225	86231	86237	86243	86249	86255	86261	86267
729	86273	86279	86285	86291	86297	86302	86308	86314	86320	86326
730	2.86332	2.86338	2.86344	2.86350	2.86356	2.86362	2.86368	2.86374	2.86380	2.86386
731	86392	86398	86404	86410	86415	86421	86427	86433	86439	86445
732	86451	86457	86463	86469	86475	86481	86487	86493	86498	86504
733	86510	86516	86522	86528	86534	86540	86546	86552	86558	86564
734	86570	86575	86581	86587	86593	86599	86605	86611	86617	86623
735	86629	86635	86640	86646	86652	86658	86664	86670	86676	86682
736	86688	86694	86700	86705	86711	86717	86723	86729	86735	86741
737	86747	86753	86758	86764	86770	86776	86782	86788	86794	86800
738	86806	86811	86817	86823	86829	86835	86841	86847	86853	86859
739	86864	86870	86876	86882	86888	86894	86900	86906	86911	86917
740	2.86923	2.86929	2.86935	2.86941	2.86947	2.86952	2.86958	2.86964	2.86970	2.86976
741	86982	86988	86993	86999	87005	87011	87017	87023	87029	87034
742	87040	87046	87052	87058	87064	87070	87075	87081	87087	87093
743	87099	87105	87111	87116	87122	87128	87134	87140	87146	87151
744	87157	87163	87169	87175	87181	87186	87192	87198	87204	87210
745	87216	87221	87227	87233	87239	87245	87251	87256	87262	87268
746	87274	87280	87285	87291	87297	87303	87309	87315	87320	87326
747	87332	87338	87344	87349	87355	87361	87367	87373	87378	87384
748	87390	87396	87402	87408	87413	87419	87425	87431	87437	87442
749	87448	87454	87460	87466	87471	87477	87483	87489	87494	87500
750	2.87506	2.87512	2.87518	2.87523	2.87529	2.87535	2.87541	2.87547	2.87552	2.87558
751	87564	87570	87576	87581	87587	87593	87599	87604	87610	87616
752	87622	87628	87633	87639	87645	87651	87656	87662	87668	87674
753	87679	87685	87691	87697	87702	87708	87714	87720	87726	87731
754	87737	87743	87749	87754	87760	87766	87772	87777	87783	87788
755	87795	87800	87806	87812	87818	87823	87829	87835	87841	87846
756	87852	87858	87864	87869	87875	87881	87887	87892	87898	87904
757	87910	87915	87921	87927	87932	87938	87944	87950	87955	87961
758	87967	87973	87978	87984	87990	87996	88001	88007	88013	88018
759	88024	88030	88036	88041	88047	88052	88058	88064	88070	88076



A Table of Logarithms from 1 to 10,000.

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No.	0	1	2	3	4	5	6	7	8	9
760	2.88081	2.88087	2.88093	2.88098	2.88104	2.88110	2.88116	2.88121	2.88127	2.88133
761	88138	88144	88150	88156	88161	88167	88173	88178	88184	88190
762	88195	88201	88207	88213	88218	88224	88230	88235	88241	88247
763	88253	88258	88264	88269	88275	88281	88287	88292	88298	88304
764	88309	88315	88321	88326	88332	88338	88343	88349	88355	88360
765	88366	88372	88377	88383	88389	88394	88400	88406	88411	88417
766	88423	88428	88434	88440	88445	88451	88457	88462	88468	88474
767	88479	88485	88491	88496	88502	88508	88513	88519	88525	88530
768	88536	88542	88547	88553	88559	88564	88570	88576	88581	88587
769	88593	88598	88604	88610	88615	88621	88626	88632	88638	88643
770	2.88649	2.88655	2.88660	2.88666	2.88672	2.88677	2.88683	2.88688	2.88694	2.88700
771	88705	88711	88717	88722	88728	88734	88739	88745	88750	88756
772	88762	88767	88773	88779	88784	88790	88795	88801	88807	88812
773	88818	88824	88829	88835	88840	88846	88852	88857	88863	88868
774	88874	88880	88885	88891	88896	88902	88908	88913	88919	88925
775	88930	88936	88941	88947	88953	88958	88964	88969	88975	88981
776	88986	88992	88997	89003	89009	89014	89020	89025	89031	89036
777	89042	89048	89053	89059	89064	89070	89075	89081	89087	89092
778	89098	89103	89109	89115	89120	89126	89131	89137	89143	89148
779	89154	89159	89165	89170	89176	89182	89187	89193	89198	89204
780	2.89209	2.89215	2.89221	2.89226	2.89232	2.89237	2.89243	2.89248	2.89254	2.89259
781	89265	89271	89276	89282	89287	89293	89298	89304	89310	89315
782	89321	89326	89332	89337	89343	89348	89354	89359	89365	89371
783	89376	89382	89387	89393	89398	89404	89409	89415	89420	89426
784	89432	89437	89443	89448	89454	89459	89465	89470	89476	89481
785	89487	89492	89498	89504	89509	89515	89520	89526	89531	89537
786	89542	89548	89553	89559	89564	89570	89575	89581	89586	89592
787	89597	89603	89608	89614	89619	89625	89631	89636	89642	89647
788	89653	89658	89664	89669	89675	89680	89686	89691	89697	89702
789	89708	89713	89719	89724	89730	89735	89741	89746	89752	89757
790	2.89762	2.89768	2.89774	2.89779	2.89785	2.89790	2.89796	2.89801	2.89807	2.89812
791	89818	89823	89829	89834	89840	89845	89851	89856	89861	89867
792	89872	89878	89883	89889	89894	89900	89905	89911	89916	89922
793	89927	89933	89938	89944	89949	89955	89960	89966	89971	89977
794	89982	89987	89993	89998	90004	90009	90015	90020	90026	90031
795	90037	90042	90048	90053	90059	90064	90069	90075	90080	90085
796	90091	90097	90102	90108	90113	90119	90124	90129	90135	90141
797	90146	90151	90157	90162	90168	90173	90178	90184	90189	90195
798	90200	90206	90211	90217	90222	90227	90233	90238	90244	90249
799	90255	90260	90265	90271	90276	90282	90287	90293	90298	90304
800	2.90309	2.90314	2.90320	2.90325	2.90331	2.90336	2.90342	2.90347	2.90352	2.90358
801	90363	90369	90374	90379	90385	90390	90396	90401	90407	90412
802	90417	90423	90428	90434	90439	90444	90450	90455	90461	90466
803	90471	90477	90482	90488	90493	90499	90504	90509	90515	90520
804	90526	90531	90536	90542	90547	90553	90558	90563	90569	90574
805	90580	90585	90590	90596	90601	90606	90611	90617	90622	90628
806	90633	90639	90644	90650	90655	90660	90666	90671	90677	90682
807	90687	90693	90698	90703	90709	90714	90720	90725	90730	90736
808	90741	90746	90752	90757	90763	90768	90773	90779	90784	90789
809	90795	90800	90806	90811	90816	90822	90827	90832	90838	90843
810	2.90848	2.90854	2.90859	2.90865	2.90870	2.90875	2.90881	2.90886	2.90891	2.90897
811	90902	90907	90913	90918	90923	90929	90934	90939	90945	90950
812	90956	90961	90966	90972	90977	90982	90988	90993	90998	91004
813	91009	91014	91020	91025	91030	91036	91041	91046	91052	91057
814	91062	91068	91073	91078	91084	91089	91094	91100	91105	91110
815	91116	91121	91126	91131	91137	91142	91148	91153	91158	91164
816	91169	91174	91180	91185	91190	91196	91201	91206	91212	91217
817	91222	91227	91233	91238	91243	91249	91254	91259	91265	91270
818	91275	91281	91286	91291	91297	91302	91307	91312	91318	91323
819	91328	91334	91339	91344	91350	91355	91360	91365	91371	91376

No.	0	1	2	3	4	5	6	7	8	9
820	2.91381	2.91387	2.91392	2.91397	2.91403	2.91408	2.91413	2.91418	2.91424	2.91429
821	91434	91440	91445	91450	91455	91461	91466	91471	91477	91482
822	91487	91492	91498	91503	91508	91514	91519	91524	91529	91535
823	91540	91545	91550	91556	91561	91566	91572	91577	91582	91587
824	91593	91598	91603	91608	91614	91619	91624	91630	91635	91640
825	91645	91651	91656	91661	91667	91672	91677	91682	91687	91693
826	91698	91703	91708	91714	91719	91724	91729	91735	91740	91745
827	91750	91756	91761	91766	91772	91777	91782	91787	91792	91798
828	91803	91808	91813	91819	91824	91829	91834	91840	91845	91850
829	91855	91861	91866	91871	91876	91882	91887	91892	91897	91902
830	2.91908	2.91913	2.91918	2.91923	2.91929	2.91934	2.91939	2.91944	2.91950	2.91955
831	91960	91965	91970	91976	91981	91986	91991	91997	92002	92007
832	92012	92017	92023	92028	92033	92038	92044	92049	92054	92059
833	92064	92070	92075	92080	92085	92091	92096	92101	92106	92111
834	92117	92122	92127	92132	92137	92143	92148	92153	92158	92163
835	92169	92174	92179	92184	92189	92195	92200	92205	92210	92215
836	92221	92226	92231	92236	92241	92247	92252	92257	92262	92267
837	92272	92278	92283	92288	92293	92298	92304	92309	92314	92319
838	92324	92330	92335	92340	92345	92350	92355	92361	92366	92371
839	92376	92381	92386	92392	92397	92402	92407	92412	92418	92423
840	2.92428	2.92433	2.92438	2.92443	2.92449	2.92454	2.92459	2.92464	2.92469	2.92474
841	92480	92485	92490	92495	92500	92505	92511	92516	92521	92526
842	92531	92536	92541	92547	92552	92557	92562	92567	92572	92578
843	92583	92588	92593	92598	92603	92608	92614	92619	92624	92629
844	92634	92639	92644	92650	92655	92660	92665	92670	92675	92680
845	92686	92691	92696	92701	92706	92711	92716	92722	92727	92732
846	92737	92742	92747	92752	92758	92763	92768	92773	92778	92783
847	92788	92793	92799	92804	92809	92814	92819	92824	92829	92834
848	92840	92845	92850	92855	92860	92865	92870	92875	92880	92886
849	92891	92896	92901	92906	92911	92916	92921	92927	92932	92937
850	2.92942	2.92947	2.92952	2.92957	2.92962	2.92967	2.92972	2.92978	2.92983	2.92988
851	92993	92998	93003	93008	93013	93018	93024	93029	93034	93039
852	93044	93049	93054	93059	93064	93069	93074	93080	93085	93090
853	93095	93100	93105	93110	93115	93120	93125	93130	93136	93141
854	93146	93151	93156	93161	93166	93171	93176	93181	93186	93191
855	93197	93202	93207	93212	93217	93222	93227	93232	93237	93242
856	93247	93252	93257	93263	93268	93273	93278	93283	93288	93293
857	93298	93303	93308	93313	93318	93323	93328	93333	93339	93344
858	93349	93354	93359	93364	93369	93374	93379	93384	93389	93394
859	93399	93404	93409	93414	93419	93425	93430	93435	93440	93445
860	2.93450	2.93455	2.93460	2.93465	2.93470	2.93475	2.93480	2.93485	2.93490	2.93495
861	93500	93505	93510	93515	93520	93525	93531	93536	93541	93546
862	93551	93556	93561	93566	93571	93576	93581	93586	93591	93596
863	93601	93606	93611	93616	93621	93626	93631	93636	93641	93646
864	93651	93656	93661	93666	93671	93676	93681	93686	93692	93697
865	93702	93707	93712	93717	93722	93727	93732	93737	93742	93747
866	93752	93757	93762	93767	93772	93777	93782	93787	93792	93797
867	93802	93807	93812	93817	93822	93827	93832	93837	93842	93847
868	93852	93857	93862	93867	93872	93877	93882	93887	93892	93897
869	93902	93907	93912	93917	93922	93927	93932	93937	93942	93947
870	2.93952	2.93957	2.93962	2.93967	2.93972	2.93977	2.93982	2.93987	2.93992	2.93997
871	94002	94007	94012	94017	94022	94027	94032	94037	94042	94047
872	94052	94057	94062	94067	94072	94076	94081	94086	94091	94096
873	94101	94106	94111	94116	94121	94126	94131	94136	94141	94146
874	94151	94156	94161	94166	94171	94176	94181	94186	94191	94196
875	94201	94206	94211	94216	94221	94226	94230	94235	94240	94245
876	94250	94255	94260	94265	94270	94275	94280	94285	94290	94295
877	94300	94305	94310	94315	94320	94325	94330	94335	94340	94344
878	94349	94354	94359	94364	94369	94374	94379	94384	94389	94394
879	94399	94404	94409	94414	94419	94424	94428	94433	94438	94443

No.	0	1	2	3	4	5	6	7	8	9
880	2.94448	2.94453	2.94458	2.94463	2.94468	2.94473	2.94478	2.94483	2.94488	2.94493
881	94498	94502	94507	94512	94517	94522	94527	94532	94537	94542
882	94547	94552	94557	94562	94566	94571	94576	94581	94586	94591
883	94596	94601	94606	94611	94616	94621	94626	94630	94635	94640
884	94645	94650	94655	94660	94665	94670	94675	94680	94684	94689
885	94694	94699	94704	94709	94714	94719	94724	94729	94734	94738
886	94743	94748	94753	94758	94763	94768	94773	94778	94783	94787
887	94792	94797	94802	94807	94812	94817	94822	94827	94831	94836
888	94841	94846	94851	94856	94861	94866	94871	94875	94880	94885
889	94890	94895	94900	94905	94910	94915	94919	94924	94929	94934
890	2.94939	2.94944	2.94949	2.94953	2.94958	2.94963	2.94968	2.94973	2.94978	2.94983
891	94988	94993	94997	95002	95007	95012	95017	95022	95027	95031
892	95036	95041	95046	95051	95056	95061	95066	95070	95075	95080
893	95085	95090	95095	95100	95105	95109	95114	95119	95124	95129
894	95134	95139	95143	95148	95153	95158	95163	95168	95173	95177
895	95182	95187	95192	95197	95202	95207	95211	95216	95221	95226
896	95231	95236	95240	95245	95250	95255	95260	95265	95270	95274
897	95279	95284	95289	95294	95299	95303	95308	95313	95318	95323
898	95328	95332	95337	95342	95347	95352	95357	95361	95366	95371
899	95376	95381	95386	95390	95395	95400	95405	95410	95415	95419
900	2.95424	2.95429	2.95434	2.95439	2.95443	2.95448	2.95453	2.95458	2.95463	2.95468
901	95472	95477	95482	95487	95492	95497	95501	95506	95511	95516
902	95521	95525	95530	95535	95540	95545	95549	95554	95559	95564
903	95569	95574	95578	95583	95588	95593	95598	95602	95607	95612
904	95617	95622	95626	95631	95636	95641	95646	95650	95655	95660
905	95665	95670	95674	95679	95684	95689	95694	95698	95703	95708
906	95713	95718	95722	95727	95732	95737	95742	95746	95751	95756
907	95761	95765	95771	95775	95780	95785	95789	95794	95799	95804
908	95809	95813	95818	95823	95828	95832	95837	95842	95847	95852
909	95856	95861	95866	95871	95875	95880	95885	95890	95895	95899
910	2.95904	2.95909	2.95914	2.95918	2.95923	2.95928	2.95933	2.95937	2.95942	2.95947
911	95952	95957	95961	95966	95971	95976	95980	95985	95990	95995
912	95999	96004	96009	96014	96018	96023	96028	96033	96038	96042
913	96047	96052	96057	96061	96066	96071	96076	96080	96085	96090
914	96095	96099	96104	96109	96114	96118	96123	96128	96133	96137
915	96142	96147	96152	96156	96161	96165	96171	96175	96180	96185
916	96189	96194	96199	96204	96208	96213	96218	96223	96227	96232
917	96237	96242	96246	96251	96256	96261	96265	96270	96275	96279
918	96284	96289	96293	96298	96303	96308	96313	96317	96322	96327
919	96331	96336	96341	96346	96350	96355	96360	96365	96369	96374
920	2.96379	2.96383	2.96388	2.96393	2.96398	2.96402	2.96407	2.96412	2.96416	2.96421
921	96426	96431	96435	96440	96445	96449	96454	96459	96464	96468
922	96473	96478	96482	96487	96492	96497	96501	96506	96511	96515
923	96520	96525	96530	96534	96539	96544	96548	96553	96558	96562
924	96567	96572	96577	96581	96586	96591	96595	96600	96605	96609
925	96614	96619	96624	96628	96633	96638	96642	96647	96651	96656
926	96661	96666	96670	96675	96680	96684	96689	96694	96699	96703
927	96708	96713	96717	96722	96727	96731	96736	96741	96745	96750
928	96755	96759	96764	96769	96773	96778	96783	96787	96792	96797
929	96802	96806	96811	96816	96820	96825	96830	96834	96839	96844
930	2.96848	2.96853	2.96858	2.96862	2.96867	2.96872	2.96876	2.96881	2.96886	2.96890
931	96895	96900	96904	96909	96914	96918	96923	96928	96932	96937
932	96942	96946	96951	96956	96960	96965	96969	96974	96979	96983
933	96988	96993	96997	97002	97007	97011	97016	97021	97025	97030
934	97035	97039	97044	97049	97053	97058	97062	97067	97072	97076
935	97081	97086	97090	97095	97100	97104	97109	97114	97118	97123
936	97128	97132	97137	97141	97146	97151	97155	97160	97165	97169
937	97174	97179	97183	97188	97192	97197	97202	97206	97211	97216
938	97220	97225	97229	97234	97239	97243	97248	97253	97257	97262
939	97267	97271	97276	97280	97285	97290	97294	97299	97303	97308

No.	0	1	2	3	4	5	6	7	8	9
940	2.97313	2.97317	2.97322	2.97326	2.97331	2.97336	2.97340	2.97345	2.97350	2.97354
941	97359	97364	97368	97373	97377	97382	97387	97391	97396	97400
942	97405	97410	97414	97419	97423	97428	97433	97437	97442	97447
943	97451	97456	97460	97465	97470	97474	97479	97483	97488	97492
944	97497	97502	97506	97511	97516	97520	97525	97529	97534	97539
945	97543	97548	97552	97557	97562	97566	97571	97575	97580	97584
946	97589	97594	97598	97603	97607	97612	97617	97621	97626	97630
947	97635	97640	97644	97649	97653	97658	97662	97667	97672	97676
948	97681	97685	97690	97694	97699	97704	97708	97713	97717	97722
949	97727	97731	97736	97740	97745	97749	97754	97759	97763	97768
950	2.97774	2.97777	2.97781	2.97786	2.97791	2.97795	2.97800	2.97804	2.97809	2.97813
951	97818	97823	97827	97832	97836	97841	97845	97850	97855	97859
952	97864	97868	97873	97877	97882	97886	97891	97895	97900	97905
953	97909	97914	97918	97923	97927	97932	97937	97941	97946	97950
954	97955	97959	97964	97968	97973	97978	97982	97987	97991	97996
955	98000	98005	98009	98014	98018	98023	98028	98032	98037	98042
956	98046	98050	98055	98059	98064	98068	98073	98078	98082	98087
957	98091	98096	98100	98105	98109	98114	98118	98123	98127	98132
958	98136	98141	98146	98150	98155	98159	98164	98168	98173	98177
959	98182	98186	98191	98195	98200	98204	98209	98213	98218	98223
960	2.98227	2.98232	2.98236	2.98241	2.98245	2.98250	2.98254	2.98259	2.98263	2.98268
961	98272	98277	98281	98286	98290	98295	98299	98304	98308	98313
962	98317	98322	98326	98331	98336	98340	98345	98349	98354	98358
963	98363	98367	98372	98376	98381	98385	98389	98394	98399	98403
964	98408	98412	98417	98421	98426	98430	98435	98439	98444	98448
965	98453	98457	98462	98466	98471	98475	98480	98484	98489	98493
966	98498	98502	98507	98511	98516	98520	98525	98529	98534	98538
967	98543	98547	98552	98556	98561	98565	98570	98574	98579	98583
968	98587	98592	98596	98601	98605	98610	98614	98619	98622	98628
969	98632	98637	98641	98646	98650	98655	98659	98664	98668	98673
970	2.98677	2.98682	2.98686	2.98691	2.98695	2.98699	2.98704	2.98708	2.98713	2.98717
971	98722	98726	98731	98735	98740	98744	98749	98753	98758	98762
972	98767	98771	98776	98780	98784	98789	98793	98798	98802	98807
973	98811	98816	98820	98825	98829	98834	98838	98842	98847	98851
974	98856	98860	98865	98869	98874	98878	98883	98887	98891	98896
975	98900	98905	98909	98914	98918	98923	98927	98932	98936	98940
976	98945	98949	98954	98958	98963	98967	98972	98976	98981	98985
977	98989	98994	98998	99003	99007	99012	99016	99021	99025	99029
978	99034	99038	99043	99047	99052	99056	99060	99065	99069	99074
979	99078	99083	99087	99092	99096	99100	99105	99109	99114	99118
980	2.99123	2.99127	2.99131	2.99136	2.99140	2.99145	2.99149	2.99154	2.99158	2.99162
981	99167	99171	99176	99180	99185	99189	99193	99198	99202	99207
982	99211	99216	99220	99224	99229	99233	99238	99242	99246	99251
983	99257	99259	99264	99269	99273	99277	99282	99286	99291	99295
984	99299	99304	99308	99313	99317	99322	99326	99330	99335	99339
985	99344	99348	99352	99357	99361	99366	99370	99374	99379	99383
986	99388	99392	99396	99401	99405	99410	99414	99418	99423	99427
987	99431	99436	99440	99445	99449	99454	99458	99462	99467	99471
988	99476	99480	99484	99489	99493	99498	99502	99506	99511	99515
989	99520	99524	99528	99533	99537	99542	99546	99550	99555	99559
990	2.99563	2.99568	2.99572	2.99577	2.99581	2.99585	2.99590	2.99594	2.99599	2.99603
991	99607	99612	99616	99620	99625	99629	99634	99638	99642	99647
992	99651	99655	99660	99664	99669	99673	99677	99682	99686	99690
993	99695	99699	99704	99708	99712	99717	99721	99725	99730	99734
994	99739	99743	99747	99752	99756	99760	99765	99769	99774	99778
995	99782	99787	99791	99795	99800	99804	99808	99813	99817	99822
996	99826	99830	99835	99839	99843	99848	99852	99856	99861	99865
997	99869	99874	99878	99883	99887	99891	99896	99900	99904	99909
998	99913	99917	99922	99926	99930	99935	99939	99943	99948	99952
999	99956	99961	99965	99970	99974	99978	99983	99987	99991	99996



To find the logarithm of any number by the preceding table.

If the number is less than 100, look in the first page of the table, and opposite to it is the logarithm: Suppose 57, look for 57 in the column of numbers, and opposite to it is its logarithm 1.75587: Suppose the logarithm of 737, look in the column of numbers for 737, and opposite is 2.86747. To find the logarithm of 7379, look in the column of numbers for the three first figures, and for the last figure 9, look over, and under 9 is the logarithm 86800; but as the unit 9 of the whole number is three removes from 7, the characteristic of the logarithm is 3, therefore the logarithm of 7379 is 3.86800.

*Note.* In addition of logarithms, whatever you carry from the decimals of the logarithm to the characteristic, is affirmative, and as such must be treated.

Let it be required, to add the logarithm of L. 560 to the logarithm of .0057.

$$\begin{array}{rcl}
 \text{Log. of } 560 \text{ is} & - & 2.74819 \\
 \text{Log. of } .0057 \text{ is} & + & -3.75587 \\
 \hline
 & & -0.50406
 \end{array}$$

Whose natural number is 3192; but as the index is 0 the number will stand 3.192; and this would have been the answer had you multiplied L. 560 by the decimal .0057.

$$\begin{array}{r}
 560 \\
 .0057 \\
 \hline
 3920 \\
 2800 \\
 00 \\
 \hline
 3.192
 \end{array}$$

H In



In subtracting an affirmative characteristic from a negative characteristic, you must add the two characteristics together, and affix before the amount of the two characteristics the negative sign.

Let it be required to subtract the logarithm of P. 560 from the logarithm of .0057.

$$\begin{array}{r}
 \text{Logarithm of .0057 is} \quad - \quad -3.75587 \\
 \text{Logarithm of 560 is} \quad - \quad 2.74819 \\
 \hline
 -5.00767
 \end{array}$$

The nearest natural number by tables is 1017; but as the characteristic is  $-5$ , 1, the first significant figure in the decimal, must be five removes from the place of units of a whole number; it will therefore be 0.00001017; and this would be your answer had you divided the decimal of .0057 by 560, and to have made your decimal to consist of eight places.

Let it be required to subtract the logarithm of 560 from the logarithm of 280.

$$\begin{array}{r}
 \text{Logarithm of 280 is} \quad - \quad 2.44716 \\
 \text{Logarithm of 560 is} \quad - \quad 2.74819 \\
 \hline
 -1.69897
 \end{array}$$

The natural number is 5; but as the index is negative, the number must be a decimal, and will therefore be 0.5.

### *Proportion of Logarithms.*

Add the logarithm of the second and third term together, and from their amount subtract the logarithm of the first term, the remainder is the logarithm of the fourth proportional.

If

If 5967 give 3672, what will 3965 give?

Log. of 5967 is	-	<u>3.77576</u>
Log. of 3672 is	-	<u>3.56490</u>
Log. of 3965 is	-	<u>3.59824</u>
		<u>7.16314</u>
Deduct logarithm of 5967,		<u>3.77576</u>
		3.38738

Natural number is 2440.

And this, by vulgar arithmetic, is the answer.

$$\text{If } 5967 : 3672 :: 3965$$

$$\frac{3965}{5967} = \frac{14559480}{2440}$$

Again. 5.967 : 3.672 :: 3.965

Log. of 5.967 is	-	<u>0.77576</u>
Log. of 3.672 is	-	<u>0.56490</u>
Log. of 3.965 is	-	<u>0.59824</u>
		<u>1.16314</u>
Deduct log. of 5.967	-	<u>0.77576</u>
		0.38738

Natural number, 244 ; but as the index is a cypher, the number must be 2.44.

- *For Compound Interest.*

#### R U L E.

Take the logarithm of L. 1, and its interest (at whatever rate) for one year ; multiply this logarithm  
H 2 by

by the number of years, and to this product add the logarithm of the sum upon which you wish to calculate compound interest, the product is the logarithm of the natural number required.

Let it be required, what L. 365, 10 s. will amount to at the end of eight years, compound interest at 3 per cent.

L. 1 in one year is L. 1.030, the logarithm of  
L. 1.030 is - .01284  
Multiply by the number of years, - 8

Logarithm of L. 365.5 is - .10272  
2.56289

Natural number is 463 = 2.66561

L. 463 is the sum to which L. 365, 10 s. will amount in eight years, improved at 3 per cent. compound interest.

4 per Cent.

Sum, L. 425, 16 s. Years, 6.

L. 1 in one year is L. 1.040, Log. .01703  
Years, - - - 6

L. 425.8 - - - .10218  
Log. 2.62921

2.73139

Natural number is 538.7, and a fraction,

Which is L. 538 : 15 : 6, the sum to which L. 425, 16 s. will amount in six years, at 4 per cent. compound interest.

5 per

5 per Cent.

Sum, L. 565, 16 s. Years, 14.

L. 1 in one year is L. 1.050,

Years, -

Log. .02119

14

---

.08476

0.2119

---

0.29666

L. 565.8

-

-

Log. 2.75266

---

3.04932

Natural number is 1120.4, or L. 1120, 8 s. and a small fraction, the sum to which L. 565, 16 s. will amount in fourteen years, at 5 per cent. compound interest; so that you see money does not entirely double itself in fourteen years at 5 per cent. compound interest.

To know what capital, eight years ago, was worth L. 365, 10 s. at present, you have only to subtract in place of adding.

Sum, L. 365, 10 s. to be drawn back eight years, interest 3 per cent.

Sum, L. 365.5,

-

Log. 2.56289

Interest, 1.030,

Log. .01284

Years, -

-

-

8

---

0.10272 0.10272

---

Log. 2.46017

Natural number is 288.5, or L. 288, 10 s. a capital eight years ago, worth L. 365, 10 s. at present, compound interest being reckoned at 3 per cent.

And so on for the other rates of interest.

Example

## Example at 5 per Cent.

Sum, L. 1120, 8s. to be drawn back fourteen years,  
at 5 per cent.

Sum, L. 1120.4,	Log. is	3.04932
L. 1 is L. 1.050,	Log. is	0.02119
Number of years,	-	14
		<hr/>
		.08476
		0.2119
		<hr/>
		0.29666
		0.29666
		<hr/>
	Log.	2.75266

Natural number is 565.8, or L. 565, 16s.

To



To conclude. I will now give an example in logarithms, shewing how a sum of money may be divided amongst creditors ranked *pari passu* upon a bankrupt-estate.

## EXAMPLE.

Suppose a bankrupt-estate amounts to L. 8600, 7 s. 3 d. and against which there are claims to the amount of L. 19374 : 12 : 6, you wish to know what dividend each creditor will draw per pound.

Amount of claims,	-	L. 19374.625
Amount of estate,	-	8600.3625

Dividend per Pound.

Estate,	8600.3625	-	Log. 3.93450
Claims,	19374.625	-	4.28713

—1.64737

Natural number .4439, and a small decimal, dividend per pound is 8 s. 10 $\frac{1}{4}$  d.; and if you attend to the note preceding, you will observe, in the subtracting the characteristic 4 from the characteristic 3, something less than an integer must be the quotient, and therefore the negative sign is placed before the characteristic: the decimal, being affirmative, points out the natural number to be a decimal of the integer; but the integer is L. 1, therefore .4439 is the decimal part of a pound, which is, as above stated, 8 s. 10 $\frac{1}{4}$  d.

Again, Suppose the estate to amount to L. 860 : 7 : 3, and the debts to L. 19374 : 12 : 6, what will this estate divide per pound?

Estate,	860.3625,	-	Log. 2.93450
Debts,	19374.625,	-	Log. 4.28713

—2.64737

Natural number 0.04439, equal to 10 $\frac{1}{4}$  d. per pound.

Let

Let it be required, what a creditor whose debt is L. 2250 : 2 : 6 will draw from an estate of L. 8600, 7 s. 3 d. against which there are debts to the amount of L. 19374 : 12 : 6.

<u>L. s. d.</u>	<u>L. s. d.</u>	<u>L. s. d.</u>
Debts, 19374 : 12 : 6,	Estate, 8600 : 7 : 3,	Claim, 2250 : 2 : 6.
Log. 4.28713	Log. 3.93450	Log. 3.35218
Claim,	Log. 3.35218	
	<u>7.28668</u>	
Debts,	Log. 4.28713	
	<u>2.99955</u>	

Natural number 998.8, and a fraction.

Sum which L. 2250 : 2 : 6 will draw is L. 998, 16 s. 6 d. *Vide* first claim against estate, done by decimal fractions.

F I N I S.



